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HOOKER'S

ICONES PLANTARUM;

OR,

FIGURES, WITH DESCRIPTIVE CHARACTERS AND REMARKS,

OF NEW AND RARE PLANTS,

SELECTED FROM THE

KEW HERBARIUM.

THIRD SERIES.

EDITED BY

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ICONES PLANTARUM.

Plate 1201.

SENECIO CHEESEMANI, *Hook. f.*

Compositæ, Tribe Senecionideæ Senecioneæ.

S. Cheesemani, *Hook f. n. sp.*; arbuscula ramulis glabratis, foliis petiolatis elliptico-lanceolatis acuminatis irregulariter dentatis supra lucidis subter appresse niveo-lanatis, panicula effusa ramis ramulisque densissime glanduloso-tomentosis, bracteis subulatis, capitulis pedicellatis basi 1–2-bracteolatis, involucri basi angusti bracteis ad 8 lineari-oblongis membranaceis glabratis, floribus ad 12, ligulis ad 6 latis styli ramis brevioribus, pappi setis scaberulis, acheniis glabratis.

New Zealand; Northern Island, at the Thames Gold-fields.—*Thos. F. Cheeseman.*

Arbuscula v. frutex 6–15-pedalis, cortice atro, ramulis gracilibus glabratis siccitate atro-purpureis. *Folia* 3–5-poll. longa, membranacea, basi angustata v. cordato-2-loba, lobis sæpe inæqualibus, dentibus argutis, junioribus apicibus glandulosis, nervis reticulatis; petiolo gracili 1–1½-pollicari. *Panicula* pedalis et ultra, thyrsoidea, pilis patentibus glandulosis siccitate atro-purpureis densissime vestita, ultimis præterea albo-purpuraceis; bracteis inferioribus foliaceis, superioribus subulatis. *Capitula* ⅓-poll. longa, obconica; pedicello æquilongo, bracteolis paucis subulatis instructo; floribus albis, odoris. *Involucri bracteæ* floribus æquilongæ, medio herbaceæ, marginibus late hyalinis nitidulis, fere glabræ, acutæ v. obtusæ, planæ. *Receptaculum* angustum, alveolatum. *Fl. radii* ligula varia, sæpius latior quam longa, integra v. lobata; styli rami robusti. *Fl. disci* angusti, glaberrimi; styli rami graciles, truncati. *Achænia* immatura puberula. *Pappus* niveus.

A very distinct species, remarkable for its very large panicles and sweet-scented white flowers. Its position among the New Zealand species is near *S. perdicioides* and *sciadophilus*.—J. D. Hooker.

Fig. 1. Capitulum and bracteoles. 2. Bracts of involucre. 3. Flowers of disk. 4. Ditto of ray. 5. Style arm of disk flower. All enlarged.

When describing *Corysanthes Cheesemani* (Tab. 1120) I left in doubt certain points of structure, in respect of which I differed from the discoverer of the plant and from the artist whose figure is quoted above. These I am now enabled to clear up by means of specimens in spirits, kindly communicated by Mr. Cheeseman.

In none of these do I find the ligulate process figured, nor anything in its place. The base of the lip is produced downwards on each side of the mesial line into a conical hollow obtuse short spur, between which spurs the two lateral sepals, reduced to subulate ascending processes, are projected as represented in figs. 1 and 2. I find no trace of petals. The lamina of the lip varies much in shape; it appears usually as represented at fig. 1, but sometimes as in fig. 2, and in a few cases it is reduced at the apex, having no reflected portion.

As a species, *C. Cheesemani* is very clearly allied to the Australian *C. fimbriata*, Br., differing chiefly in the spurs of the lip and absence of petals.

A specimen of *C.* (Nemetoceras) *macrantha*, Hk. f. (Fl. N. Zeald. 1. 249, t. LVII.; Handbook, p. 266), sent by Mr. Cheeseman with the above, shows that the petals are inserted at the base of the lip at its outer margin, one on each side, apparently on a level with the lateral sepals, which are placed between the petals, that is to say, nearer to the mesial line of the lip. The lip is twisted from the base, so that access to the pollen and stigma is gained from the base of the flower, not as in *Corysanthes Cheesemani*, by the mouth of the lip. If this arrangement is constant, and prevails through the other plants upon which I established the genus Nemetoceras, in the New Zealand Flora, it may indicate the propriety of retaining that genus instead of merging it in *Corysanthes*, as I have done in the 'Handbook of The New Zealand Flora.' The whole genus demands an attentive study from the local observer, in respect both of structure and mode of impregnation. —J. D. Hooker.

Plate 1202.

INGA ACUMINATA, *Benth.*

Leguminosæ, Suborder Mimoseæ.

I. acuminata, *Benth. in Hook. Lond. Journ.* iv. 600, glabra v. vix pilosula, foliolis 2–5-jugis ovato-lanceolatis v. ovali-oblongis acuminatis glabris lævibus nitidis, glandulis subsessilibus, spicis subglobosis pedunculatis, bracteis persistentibus brevibus, calyce glabriusculo insigniter acuminato, corolla sericeo-hirsuta calyce longiore.

Hab. Isle of Trinidad, West Indies, *Lockhart.*

Arborea, præter corollam glabra v. innovationibus leviter puberulis. *Foliorum* rhachis cum petiolo 1½–3-pollicaris, undique alata, alis cuneatis inter juga ultima sæpe 4 lin. latis inter v. infra inferiora angustioribus; *glandulæ* inter foliola cujusve paris scutellata subsessilis; *foliola* ultima 3–4-pollicaria, inferiora minora, omnia tenuiter coriacea, nitidula. *Pedunculi* in axillis superioribus v. in apicibus ramorum aphyllis 1½–2-pollicares. *Capitula* primum depresso-globosa, demum interdum fere ovoidea, 6–9-lin. diametro, densiflora. Bracteæ linea parum longiores. Calyx angustus, striatus, fere 4 lin. longus. *Corolla* angusta, 5–6 lin. longa, dense sericeo-pilosa. *Stamina* ultra 20, corolla duplo longiora, filamentis intra corollam in tubum connatis. *Ovarium* glabrum. *Legumen* ignotum.

The acuminate buds distinguish this species from all others of the species.—G. Bentham.

Fig. 1. Flower. 2. Corolla cut open, showing the pistil. 3. Bud.

Plates 1203–1204.

BALFOURODENDRON EBURNEUM, *Méllo.*

Rutaceæ, Tribe Toddalieæ.

Balfourodendron, *Méllo, gen. nov.* *Flores* hermaphroditi. *Calyx* parvus 4-partitus, lobis ovatis. *Petala* 4, æqualia, ovato-elliptica, basi breviter angustata, patentia, æstivatione imbricata. *Stamina* 4 cum petalis alternantia, inclusa; filamenta brevia lineari-subulata glabra; antheræ ovato-cordatæ biloculares longitudinaliter dehiscentes. *Discus* carnosulus, cupularis, profunde 4-plicatus, basi ovario adnatus. *Ova-*

rium 4-lobum sessile; stylus terminalis, brevis; stigma simplex indivisum; ovula in loculis gemina, collateralia, pendula. *Fructus* siccus, coriaceus, indehiscens, profunde et late verticaliter 4- (rarius 3-)alatus, alis sæpe inæqualibus, rotundatis, nervosis. Semina (in spp. nostris abortiva) ' exalbuminosa, elongato-cylindracea v. clavata; testa tenui; embryo cotyledonibus æqualibus plano-convexis; radicula supera ' (De Méllo).—*Arborescens. Folia alterna v. opposita, 3-foliolata, foliolis integris, pellucido-punctatis. Paniculæ sæpius terminales, multiflorœ; flores parvi.*

B. eburneum, *C. de Méllo mss. in Herb., sp. unica*, ramulis ultimis cum petiolis atque inflorescentia breviter pubescentibus, foliolis membranaceis oblongo-ellipticis vel oblanceolatis, plus minus acuminatis, basi angustatis, petiolulatis, integris, glabrescentibus, intermedio lateralibus sæpius paullo majore, ramis floriferis quam folia brevioribus, ramulis patentibus, pedicellis brevibus calyce æquilongis v. eodem longioribus, ovario puberolo.—*Esenbeckia Riedeliana*, Engler in Mart. Fl. Bras. Rut. p. 142.

Hab. Campinas, Prov. St. Paulo, South Brazil, *Senhor J. C. de Méllo. Riedel. Sello.*

Foliola 3–5 poll. longa; petiolus 1–2½ poll. et petioluli 0–¾ poll. longi. Flores 1½–2 lin. diam. Fructus 2–2½. poll. latus.

This plant was sent to the late Mr. Daniel Hanbury by Senhor Joaquim Correa de Méllo, and communicated by him to the Kew Herbarium, in order that it might be examined, and, if it proved to be the type of a new genus, published under the name of *Balfourodendron*[1] *eburneum*. Although it is doubtless the plant of Dr. Engler cited above, yet the consolidation of the carpels and the general form of the fruit (which was unknown to Dr. Engler), justify generic separation from *Esenbeckia*, and indeed remove it technically to the tribe *Toddalieæ*. Senhor de Méllo says the seeds are habitually nearly all abortive. He had to open forty or fifty fruits before he could find a single seed. He describes the wood as nearly white, heavy, and of compact texture. —D. Oliver.

Fig. 1. Flower. *a*. calyx-lobe, *b*. petal. 2. Stamen, with anther, back and front. 3. Ovary and disk, vertical section. 4. Transverse section of ovary, with surrounding disk.

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[1] 'As I wished to dedicate my plant to Professor Balfour, I would have preferred to call it *Balfouria* or *Huttonia*; but the former name having already been given by R. Brown to a genus of Apocyneæ, and the latter by Sternberg, to a fossil Cryptogam, I could not think of any other name which should recall that of the eminent Professor but *Balfourodendron*.'—Senhor de Méllo, in letter to Mr. Hanbury, 1874.

Plate 1205.

SPHINCTACANTHUS GRIFFITHII, *Benth.*

ACANTHACEÆ, Tribe JUSTICIEÆ.

Sphinctacanthus, *Benth., in Benth. et Hook. Gen. Pl.* ii. 118.

S. Griffithii, *Benth. l.c., species unica.*

HAB. Mishmee in East Bengal, *Griffith.*

Suffrutex elatior, glaber. *Folia* ovali-elliptica, acuminata, membranacea, 3–6 pollicaria, in petiolum longiusculum contracta. *Panicula* terminalis, e spicis 3 v. 5 laxis simplicibus 3–4-pollicaribus composita. *Bracteæ* minutæ. *Flores* oppositi v. subopposititi, sessiles v. brevissime pedicellati, ad axillas bractearum solitarii. *Calyx* alte 5–fidus, linea paullo longior. *Corollæ* tubus ovoideo-inflatus, fere 3 lin. longus, ad faucem constrictus; limbi labia ad 2 lin. longa, posticum æstivatione interius erectum, concavum, apice auguste breviterque 2-lobum; anticum æquilongum, 3-partitum, lobis angustis linearibus reflexo-patentibus æqualibus. Stamina 2, ad faucem affixa, erecto-conniventia, labio postico breviora, filamentis brevibus basi transverse affixis pilosulis; antheræ oblongæ, 2-loculares, loculis parallelis æqualibus muticis contiguis; staminodia nulla. *Discus* cupularis. *Stylus* filiformis, apice leviter incrassatus, obtusus, integer; ovula in quoque loculo 2. *Capsula* ignota.

This plant bears the manuscript name of *Justicia orchioides*, but can only be retained in that genus if it be restored to its original comprehensive extent, and the specific name appeared scarcely justified by the aspect of the specimens.—G. BENTHAM.

Fig. 1. Flower. 2. Corolla cut open.

Plate 1206.

EXOCARYA SCLERIOIDES, *Benth.*

CYPERACEÆ, Tribe HYPOLYTREÆ.

Exocarya, *Benth. gen. nov. Spiculæ* parvulæ, umbellato-paniculatæ, floribus 1–2 summis hermaphroditis, 2–3 inferioribus masculis.

Glumæ undique imbricatæ, infimæ plurimæ vacuæ. *Flores* compressi. *Squamæ* hypogynæ 2 exteriores (bracteolæ ?) laterales subopppositæ complicatæ carinatæ, 2 interiores planæ v. concavæ, glumæ parallelæ. *Stamina* 3. *Stylus* basi dilatatus, ramis stigmatosis (stigmatibus) 2 filiformibus. *Nux* e glumis exserta, styli basi dura continua coronata. —Caulis foliatus. Inflorescentia fere *Fimbrystylis*, bracteis 2–3 exterioribus longis foliaceis.

E. scleroides, *Benth., species unica.*—Cladium scleroides, *F. Muell. Fragm.* ix. 12.

Hab. New South Wales, northern districts, and adjoining districts of Queensland, *Leichhardt, C. Moore, Wilcox.*

Caules e rhizomate repente 2-pedales, tenues, triquetri, undique foliati. *Folia* graminea, longa, plana, 1–2 lineas lata, in acumen longe subulatum attenuata, vagina clausa. *Panicula* laxa, decomposita, subumbellata, ramis valde inæqualibus, longioribus 4–6 pollicaribus, interioribus abbreviatis, omnibus pedicellisque filiformibus, primariis basi confertis v. parum distantibus. Bracteæ involucrantes exteriores 2–3 longe foliaceæ, inflorescentiam tamen raro superantes, interiores parvæ, setaceæ. *Spiculæ* pedicellatæ, oblongæ, fuscæ, 1–1½ lin. longæ. *Glumæ* obtusæ, inferiores vacuæ ad 6, gradatim minores. *Flores* sæpius ad 3, inferiores masculi, 1 v. 2 superiores hermaphroditi, omnes cæterum similes, squamis hypogynis gluma parum brevioribus. *Nux* ovoideo-oblonga, obtusissima ad 2 lin. longa, omnino exserta, basi glumis emarcidis stipata; styli basis incrassata in ovario distinctissima, in nuce matura continua fere obliterata.

It was probably on account of the general resemblance of the nut to that of *Cladium* that F. Mueller referred this plant to the latter genus, although the structure of the flower, which he had overlooked, is so different. In technical characters it approaches very nearly to *Mapania* (*Pandanophyllum*) and is, as it were, intermediate between that and *Hypolytrum*, differing from the former in the interior flat hypogynous scales being 2 only, not 4, and from the latter in the presence of those two; but the elegant slender habit, the inflorescence, the minute spikelets and exserted nuts give it a very different aspect from either genus.—G. Bentham.

Fig. 1. Two spikelets, one in front. 2. Hypogynous scales. 3. Flower, one hypogynous scale removed so as to show the pistil and stamens. 4. Ovary, longitudinal section. 5. Fruit, longitudinal section showing the seed. 6. Albumen, longitudinal section showing the basal embryo.

Plate 1207.

MIMOSA INVOLUCRATA, *Benth.*

Leguminosæ, Suborder Mimoseæ.

M. involucrata, *Benth. in Hook. Journ. Bot.* iv. 386, fruticosa, inermis, floccoso-tomentosa et plumoso-pilosa, pinnis unijugis, foliolis multijugis linearibus incanis, capitulis depresso-globosis bracteis lanceolatis involucratis, floribus 4-meris 4-andris.

Hab. South Brazil, *Sello*.

Fruteæ ut videtur humilis, basi radicans, ramis floridis $\frac{1}{2}$–1-pedalibus parum ramulosis. *Tomentum* in parte superiore et in pedunculis densum, pilis basi plumosis intermixtum, in parte inferiore breve, scabrum, incanum. *Stipulæ* 2–3 lin. longæ, rigidulæ, striatæ, setaceo-acuminatæ, incano-tomentellæ, margine ciliolatæ. *Petiolus* communis vix stipulis æquilongus; pinnæ 1–$1\frac{1}{2}$ pollicares, stipellis minutissimis. *Foliola* 12–15-juga, $2\frac{1}{2}$–3 lin. longa, rigidula, obtusiuscula, margine minute serrato-ciliata, basi obliqua, utrinque tomento stellato cana, subtus obscure 1–2-nervia. *Pedunculi* in axillis superioribus semipollicares. *Capitula* cernua, 6–8 lin. diametro. *Bracteæ* involucri pluriseriatæ, arcte imbricatæ, lanceolatæ, interiores 4–5 lin. longæ, pilis longis mollibus lanatæ; exteriores breviores, cano-tomentosæ, striatæ, ciliatæ. *Calyx* parvus, pilis longiusculis tenuibus ciliatus. *Corolla* tubulosa, $2\frac{1}{2}$ lin. longa, apice sericeo-pilosa, cæterum glabra, 4-fida. *Stamina* 4, bracteas parum excedentia. *Legumen* ignotum.

The peculiar inflorescence distinguishes this species from all others of this extensive genus.—G. Bentham.

Fig. 1. An inner bract of the involucre. 2. Flower. 3. Anther, back and front view. 4. Ovary and style, longitudinal section.

Plate 1208.

ANCYLANTHUS MONTEIROI, *Oliv.*

Rubiaceæ, Tribe Vanguerieæ.

A. Monteiroi, *Oliv.*, frutex 4-pedalis, ramulis glabratis cinereis, nodis hirsutis, foliis parvis late ellipticis ovatisve obtusis basi rotundatis

utrinque hirto-pubescentibus, breviter petiolatis, stipulis late ovato-rotundatis abrupte apiculatis, floribus axillaribus solitariis pedunculatis hirtis citrino-flavidis plus minus decurvis, calycis lobis oblongo-lanceolatis obtusiusculis tubo paullo longioribus, corollæ lobis ovato-lanceolatis acutis intus glabris apice appendice subdorsali brevissima subulata hirta apiculatis.

Hab. Delagoa Bay, *J. J. Monteiro.*

Ramuli ultimi sæpe oppositi patentim divaricati, rigidiusculi, graciles. *Folia* $\frac{1}{2}$–1 poll. longa $\frac{1}{3}$–$\frac{2}{3}$ poll. lata; petiolus 1 lin. longus. *Flores* $1\frac{1}{4}$–$1\frac{1}{2}$ poll. longi; calyx $\frac{1}{4}$ poll. longus; pedunculi 2–3 lin. longi. *Antheræ* ore tubi corollæ insertæ subsessiles, oblongo-lineares. *Ovarium* 5-loculare; stylus brevitur exsertus; stigma cylindraceo-calyptriforme apice obtusi 5-lobulatum et basi intrusum.—D. Oliver.

Fig. 1. Flower. 2. Corolla laid open. 3. Ovary, transverse section. 4. Stigma (which should not be distinctly sulcate).

Plate 1209.

SCYTANTHUS LAURIFOLIUS, *T. Anders.*

Acanthaceæ, Tribe Justicieæ.

Scytanthus, *T. Anders.*; *Benth. et Hook. Gen. Pl.* ii. 1093.

S. laurifolius, *T. Anders, l.c., species unica.*

Hab. West tropical Africa, Old Calabar, Gaboon and Cameroons rivers, *G. Mann.*

Frutex, ad fl. Calabar 4–5 pedalis, ad fl. Cameroon 8–12-pedalis (*G. Mann*), undique glaberrimus. *Folia* ovali-elliptica, apice breviter et abrupte acuminata, basi supra petiolum rotundata v. cuneata, coriacea, nitida, cujusve paris valde inæqualia, majore 3–5-pollicari, altero duplo triplove minore proportione latiore ovato v. interdum subcordato. *Racemus* simplex, terminalis v. mox oppositifolius v. pseudoaxillaris, demum 6–10-pollicaris. *Bracteæ* minimæ. *Flores* secus rhachin sparsi, brevissime pedicellati. *Calyx* late campanulatus, apertus vix linea longior, lobis 5 triangularibus. *Corolla* rubra, tubo a basi postice subgibba declinato fere cylindraceo 3–4 lin. longo; limbus 5-lobus, sub-2-labiatus, lobis rotundatis, 2 posticis brevioribus anticoque longiore æstivatione extimis, lateralibus antico parum brevioribus æstivatione intimis. *Stamina* 4, didynama, infra medium tubum affixa, inclusa, filamentis inferne crassiusculis villosulis; antheræ oblongæ, 2-loculares, loculis parallelis discretis æqualibus muticis; staminodium

posticum parvum, clavatum. *Discus* nullus. *Stylus* basi crassiusculus, supra ovarium ovatum carnosum subarticulatus, apice integer: ovula in quoque loculo ovarii 2. *Capsula* ovata v. oblonga, crassa, demum indurata, 4–6 lin. longa, basi obtusa nec in stipitem contracta. *Semina* immatura ovoidea, valde rugosa.

The specimen figured belongs to the smaller form from the Old Calabar river; the taller shrub from the Cameroons has the leaves less acuminate, more coriaceous, and the calyx-lobes narrower, but all appear to belong to one species.—G. Bentham.

Fig. 1. and 2. Flower. 3. Corolla cut open. 4. Anther, front and back view. 5. Pistil, the ovary cut longitudinally.

Plate 1210.

GASTRANTHUS SCHLECHTENDALII, *Moritz.*

Acanthaceæ, Tribe Justicieæ.

Gastranthus, *Moritz; Benth. et Hook. Gen. Pl.* ii. 1107.

G. Schlechtendalii, *Moritz, Pl. Exs. species unica.*

Hab. Venezuela, damp shady places at the hacienda Camburas, near Las Lajas, between Caraccas and La Victoria, *Ernst*; near the Colony of Tovar, *Moritz, n.* 1724, *Fendler, n.* 813 (in flower) *n.* 2034 (in fruit).

Frutex elatior (*Ernst*) ramis foliisque minute puberulis glabrescentibus. *Folia* ovali-elliptica, acuminata, 6–10-pollicaria, membranacea, utrinque viridia, basi in petiolum longiusculum contracta. *Spicæ* intra folia summa v. in axillis superioribus sessiles v. brevissime pedunculatæ, densifloræ, glanduloso-villosæ, 8–10-pollicares. *Bracteæ* oppositæ, in spica florida breviter eminentes, in fructifera sub villis reconditæ. *Flores* sessiles v. breviter pedicellati, ad axillas bractearum subterni, pedunculo communi brevissimo fulti. *Calyx* 5–6-lin. longus, segmentis 5 linearibus subæqualibus, pilis longiusculis glandulosis demum rufescentibus vestitus. *Corolla* lutea, rubro-vittata, ad 9 lin. longa, glabra, tubo basi breviter supra ovarium constricto, dein ventricoso-inflato, apice contracto; limbus brevis, labio postico æstivatione interiore anguste ovato integro $1\frac{1}{2}$ lin. longo, antici lobis 3 brevissimis latis obtusis. *Stamina* 2, medio tubo affixa, demum exserta; antheræ oblongo-lineares, 1-loculares, medio dorso affixæ: staminodia nulla. *Discus* annularis, stylus filiformis, apice integer. *Capsula* oblonga,

calyce longior, basi in stipitem solidum contracta. *Semina* 4 v. abortu pauciora, orbiculata, plano-compressa, foveolato-rugosa.—G. Bentham.

Fig. 1. Flower. 2. Anther, back and front view. 3. Capsule.

Plate 1211.

OREACANTHUS MANNII, *Benth.*

Acanthaceæ, Tribe Justicieæ.

Oreacanthus, *Benth. in Benth. et Hook. Gen. Pl.* ii. 1104.

O. Mannii, *Benth. l. c. species unica.*

Hab. Cameroons Mountains, West Tropical Africa, at an elevation of 7,000 feet, *G. Mann.*

Herba elata, 8–12-pedalis (*Mann*), præter paniculam puberula v. glabrescens. *Folia* ovali- v. oblongo-elliptica, acuminata, majora semi-pedalia, membranacea, in petiolum longiusculum contracta. *Panicula* terminalis, laxe pyramidata, 6–8-pollicaris, glandulo-pubescens. *Bracteæ* primariæ parvæ, sub cymarum ramis lineam longæ v. minores. *Cymæ* oppositæ, pedunculatæ, laxe dichotomæ, pluri- sæpius multifloræ. *Flores* omnes pedicellati. *Calyx* 2 lin. v. demum 3 lin. longus, segmentis 5 angustis subæqualibus glanduloso-pilosis. *Corolla* glabra, tubo brevi, fauce ampla subcampanulata calycem æquante; limbi labia tubo longiora, inter se æquilonga, posticum æstivatione interius, anguste oblongum, integrum, erecto-patens; anticum patens, alte 3-fidum, lobis planis. *Stamina* 2, prope basin tubi affixa, longe exserta, filamentis filiformibus; antheræ parvæ, oblongæ, 1-loculares, medio dorso affixæ, apertæ late membranaceæ; staminodia nulla. *Discus* cupularis. *Stylus* filiformis, apice integer. *Capsula* oblonga, calyce triplo longior, basi in stipitem solidum longe contracta. *Semina* 4 v. abortu pauciora, compressa, crassiuscula, rugosa.—G. Bentham.

Fig. 1. Flower. 2. Anther, back and front view. 3. Capsule. The filaments are often longer and more slender than represented in the plate.

PLATE 1212.

EVANDRA ARISTATA, *R. Br.*

CYPERACEÆ, Tribe RHYNCHOSPOREÆ.

E. aristata, *R. Br. Prod.* 239, caule foliato, spiculis laxe paniculati, glumis aristatis.

HAB. King George's Sound and adjoining districts, South-west Australia.

Caules e rhizomate crasso 2–3-pedales, obtuse triquetri. *Folia* secus caulem distantia, elongata, angusta ac plana, margine scabra, vagina clausa nigricante subpollicari; radicalia vagina longa aperta. *Panicula* longa, semipedalis ad pedalis, laxa, secunda, pedunculis filiformibus ad axillas bractearum fasciculatis, aliis spiculam unicam aliis spiculas 2–3-ferentibus. *Bracteæ* inferiores foliaceæ longiusculæ, superiores parvæ glumaceæ, omnes subulato-acuminatæ v. aristatæ. *Spiculæ* oblongæ, $\frac{1}{2}$-$\frac{3}{4}$-pollicares, 2-floræ. *Glumæ* undique imbricatæ, vacuæ 12–15 v. plures, extimæ minimæ, cæteræ gradatim majores, fuscæ v. nigricantes, rigidæ, acutissimæ, pleræque aristatæ, superiores margine scariosæ; summæ floriferæ 2, inferior vacuis interioribus conformis nisi margine latius scariosa, superior paullo brevior, mutica, obtusa, tenuis et hyalina. *Flos* uterque hermaphroditus v. inferior abortu masculus. *Stamina* 16–20 v. interdum plura; filamenta brevia; basi cum ovarii basi breviter connata; antheræ lineares, glumas subæquantes, appendice lineari. *Ovarium* basi cum filamentis confluens, superne liberum pubescens. *Styli* rami stigmatosi v. stigmata 8. *Nux* matura ad huc ignota.—G. BENTHAM.

Fig. 1. Upper hermaphrodite flower and flowering glume. 2. Anther. 3. Pistil, the adnate base of the filaments removed.

PLATE 1213.

EVANDRA PAUCIFLORA, *R. Br.*

CYPERACEÆ, Tribe RHYNCHOSPOREÆ.

E. pauciflora, *R. Br. Prod.* 239, foliis ad basin caulis confertis, spiculis ad apicem caulis 2–3 sessilibus, glumis acutis acuminatisve nec aristatis.

Hab. King George's Sound, South-west Australia, *R. Brown*, *Drummond.*

Caules 2–3-pedales, tenues, præter basin aphylli. *Folia* radicalia v. ad basin caulis conferta, prælonga, angusta, basin versus in vaginam longam apertam dilatata. *Spiculæ* in speciminibus visis 2 v. 3, in capitulum seu fasciculum terminalem confertæ sessilesque. *Bracteæ* involucrantes 2, foliaceæ, angustæ, valde inequales, capitulo longiores, basi dilatatæ, una interdum 3–4-plo longiore suberecta, capitulo tunc sublaterali. *Spiculæ* semipollicares in *E. aristatæ* subsimiles, sed glumæ non arcitatæ, flores 2 v. 3 summo solo hermaphrodito. *Stamina* in spiculis examinatis nunc vix 15 nunc ultra 20. *Ovarium* glabrum etsi stylus leviter papilloso-pubescens.—G. Bentham.

Fig. 1. Spikelet. 2. Flower. 3. Anther. 4. Pistil. 5. Ovary. longitudinal section.

Plate 1214.

MADAROSPERMA TRAILLIANUM, *Benth.*

Asclepiadeæ, Tribe Cynancheæ.

Madarosperma, *Benth. in Benth. et Hook. Gen. Pl.* ii. 1241.

M. Traillanum, *Benth. l. c., species unica.*

Hab. Amazon province, North Brazil, in the gapò on the Rio Negro near Barra, and at San Gabriel da Cachoeira, *Spruce*, *n.* 1361, and 2389; in the gapò on the Rio Padawiri, *Traill.*

Caulis volubilis, ramosissimus, pubescens, succo lacteo, supra frutices alte scandens. *Folia* opposita, breviter petiolata, ovata, utrinque puberula v. demum supra glabrata, majora sesquipollicaria, ramealia multo minora, floralia sæpius vix semipollicaria. *Flores* parvi, flavovirentes, in cymulas v. fasciculos axillares sessilesque v. brevissime pedunculatos dispositi. *Calyx* 5-partitus, pubescens, segmentis suborbiculatis margine membranaceis semilinea brevioribus. *Corolla* urceolata, glabra, linea paullo longior, tubo subgloboso, fauce constricta, lobis 5 oblongis in alabastro angustissime dextrorsum obtegentibus in rostrum erectum conniventibus, demum recurvo-patentibus, intus papillosis. *Coronæ* squamæ 5, basi dilatatæ, tubo staminео affixæ, erectæ, antheris fere ad medium adnatæ, superne liberæ, ligulatæ, subrecurvæ, gynostegium superantes. *Stamina* basi corollæ affixa, filamentis in tubum brevissimum connatis; antheræ membrana inflexa terminatæ, auriculis baseos prominulis. *Pollinia* in quoque loculo solitaria, oblonga, apicem versus affixa, pendula. *Stigma* cras-

siusculum, vertice subplanum. *Folliculi* oblique suborbiculares, 5–6 lin. longi et lati præter rostrum obliquum 2–3 lin. longum. *Semina* pauca, obovata, plano-compressa, margine attenuato grosse dentata, coma destituta.

The habit and small flower of this plant are nearly those of *Metastelma*; but besides the form of the corolla the genus is distinguished from nearly the whole order by the seeds absolutely without any coma.—G. Bentham.

Fig. 1. Flower-bud. 2. Flower expanded. 3. Corona. 4. Pollen-masses. 5. Fruit. 6. Seed.

Plate 1215.

CATOPHERIA SPICATA, *Benth.*

Labiatæ, Tribe Ocimoideæ.

Catopheria, *Benth. in Benth. et Hook. Gen. Pl.* ii. 1173.

C. spicata, *Benth.* foliis amplis basi in petiolum angustatis, spica oblonga v. elongata multiflora, corolla calyce subdimidio, genitalibus plus duplo longioribus.—*Orthosiphon spicatus*, Benth. in DC. Prod. xii. 53.

Hab. New Grenada, Parroquia de Carmen, *Purdie*, Convençion in the same province of Ocaña, *Schlim. n.* 714.

Caules herbacei (v. suffruticosi?) erecti, elati, tetragoni, pubescentes v. demum glabrati. *Folia* petiolata, ovata v. elliptica, acuminata, erososubdentata, basi breviter in petiolum decurrentia, pube brevi scabriuscula, majora 8–10-pollicaria. *Spica* terminalis, densa, 3–6-pollicaris, supra folia summa pedunculata. *Folia floralia* bracteæformia, colorata, acumine tereti pubescente terminata floribus sæpius breviora. *Calyx* subinflato-tubulosus, puberulus (rubescens?), per anthesin semipollicaris, fructifer deflexus fere pollicaris, dente postico tubo fere æquilongo ovato obtuso marginibus reflexis vix v. non decurrentibus, lateralibus cum anticis in labium inferius brevissime 4-dentatum coalitis. *Corollæ* tubus calyce subinclusus; limbus vix dimidio longior, labio postico latissimo obscure 4-dentato, antico integro leviter concavo. *Stamina* corollam duplo excedentia v. paullo longiora; antheræ ovatæ, loculis primum subparallelis connectivum marginantibus apice confluentibus, demum explanatis. *Discus* annularis, fere cupularis, minuto-dentatus. *Stylus* apice subgloboso-capitatus vix emarginatus. *Nuculæ* compressiusculæ, læves.

Besides the two species described in DC. Prod. as the section *Catoferia* of *Orthosiphon*, there is a third gathered by Ghiesbrecht in Chiapa

(Mexico), *G. chiapensis*, A. Gray, with the dense spike of *C. spicata*, but with shorter broader flowers, and very much longer stamens. The leaves are also more rounded at the base and tomentose-pubescent underneath.—G. Bentham.

Fig. 1. Flower. 2. Anther before opening, and back view when open. 3. Calyx. 4. Nutlet.

Plate 1216.

CARPHA ALPINA, *R. Br.*

Cyperaceæ, Tribe Rhynchosporeæ.

C. alpina, *R. Br. Prod.* 230.

Hab. Mountains of Tasmania, Victoria, and New Zealand, chiefly at an elevation of from 4,000 to 5,000 feet.

Caules e basi perenni 4–6-pollicares v. in speciminibus vegetioribus subpedales. Folia ad basin caulis eo multo breviora, rigidula, obtusa, plana v. concava, $\frac{1}{2}$–$1\frac{1}{2}$ lin. lata, vagina lata membranacea aperta v. folii intimi breviter clausa. *Inflorescentia* breviter corymbosa, nunc in capitulum conferta, nunc magis evoluta, sesquipollicaris, fasciculis inferioribus breviter pedunculatis. *Bracteæ* involucrantes 2 exteriores foliaceæ, inflorescentiam sæpius æquantes v. breviter superantes; bracteæ interiores parvæ, glumaceæ. *Spiculæ* 1-floræ, compressæ, lanceolatæ, vix 4 lineas excedentes in speciminibus minoribus, 6–7 lin. longæ in vegetioribus. *Glumæ* distichæ, sæpius 4, tenuiter membranaceæ, fere hyalinæ etsi rigidulæ, præter costam enerves, 2 extimæ vacuæ breves, tertia maxima pariter vacua, quarta florifera ea paullo minor. *Setæ* hypogynæ 6, post anthesin auctæ, plumosæ, glumam superantes, demum recurvo-patentes sub fructu persistentes pappum basalem simulantes. *Stamina* 3. *Ovarium* styli basi incrassata cum eo continua terminatum. *Stigmata* 3, filiformia. *Nux* ovoidea, fere 2 lin. longa, styli basi rigida parum incrassata coronata.

The genus *Carpha*, as established by Brown, included five Australian species, which, as he suggested, were not very closely allied. It has since been variously extended or reduced, and F. Mueller has proposed to merge it into *Chætospora*. In the Flora Australiensis I have thought it more natural to limit it to the species here figured, one closely allied to it from the extreme south of America, and a New Caledonian one with a large panicle of small spikelets.—G. Bentham.

Fig. 1. Spikelet. 2. The same, the small outer glumes removed. 3. Pistil. 4. Fruit.

Plate 1217.

NOTOCHÆTE HAMOSA, *Benth.*

LABIATÆ, Tribe STACHYDEÆ.

Notochæte, *Benth. et Hook. Gen. Pl.* ii. 1215.

N. hamosa, *Benth. in Wall. Pl. As. Rar.* i. 63, *species unica.*

HAB. Nepaul, *Wallich*; East Himalaya, *Griffith*; Sikkim at an elevation of 4,000 to 8,000 feet, *J. D. Hooker.*

Caulis herbaceus, erectus, bipedalis et ultra, ramosus, obsolete tetragonus, brevissime pubescens. *Folia* longe petiolata, 3–5-pollicaria, ovata, acuminata, serrato-crenata, basi oblique rotundato-cuneata, venoso-rugosa, utrinque viridia, adulta glabriuscula, juniora subtus tomentosa; floralia conformia. *Verticellastri* axillares, dense multiflori, fructiferi globosi, calycem aristis bracteolisque similibus corollas superantibus dense glochidiati, petiolo multo breviores. *Calyx* tubulosus, 5-nervis, æqualis, absque aristis 3–3½-lin. longus, dentibus 5 æqualibus membranaceis concaviusculis, costis dorsalibus sub apices dentium in aristas longas subulatas rigidas apice uncinatas productis. *Corolla* purpurascens, tubo incluso intus exannulata; limbus aristis calycinis brevior, 2-labiatus, labio postico erecto concavo galeato, antico patente 3-fido, lobis parum inæqualibus. *Stamina* 4, didynama anticis longioribus, sub galea adscendentia; antheræ per paria approximatæ, 2-loculares, loculis divaricatis demum subconfluentibus. *Discus* æqualis. *Stylus* apice 2-fidus, lobis subulatis subæqualibus. *Nuculæ* anguste oblongæ, triquetræ, apice obtusæ subtruncatæ, glabræ. —G. BENTHAM.

Fig. 1. Flower. 2. Calyx, cut open, seen from inside. 3. Anther, after the pollen is shed. 4. Summit of the style.

Plate 1218.

DACRYDIUM WESTLANDICUM, *T. Kirk.*

CONIFERÆ, Tribe TAXINEÆ.

D. westlandicum, *T. Kirk. mss.*, ramulis sterilibus gracillimis peredulis, foliis ¼-pollicaribus laxe imbricatis erecto-patentibus subulatis

compressis decurrenti-adnatis, ramulis fructiferis strictis foliis brevissimis carinato-trigonis arctissime imbricatis obtusis, nuculis minutis oblongis.

New Zealand, Middle Island; in swampy land at Hokitika, Westland, *Thos. Kirk* (White silver pine).

Mr. Kirk says of this pine, 'In Westland I met with a new Dacrydium, with the young leaves resembling those of the Kahikatea (*Podocarpus dacrydioides*), the old those of a very fine state of *Dacrydium Colensoi*, Hk. f. I have only immature fruit. The timber is different from any other New Zealand kind, and is valued for its durability. It is found in swampy land, and called the white silver pine; it appears to have been confounded with the Kahikatea.'

The only New Zealand *Dacrydium* which the specimen I possess of this plant at all resembles is the Rimu (*D. cupressinum*, Don), which has similar but more rigid leaves on the barren branchlets, and very much stouter fertile branchlets, with more or less spreading leaves.—J. D. Hooker.

1. Leaves of barren branchlets. 2. Apex of fertile branchlets. 3. Fruit. All enlarged.

Plate 1219.

DACRYDIUM KIRKII, *F. Muell.*

Coniferæ, Tribe Taxineæ.

D. Kirkii, *F. Muell. in DC. Prodr.* xvi. pars 2, 495. Arborea, ramulorum sterilium foliis pollicaribus et ultra linearibus leviter falcatis subacutis planis patentibus v. erecto-patentibus, ramulis fertilibus cum foliis subcylindraceis foliis brevissimis obtuse carinato-trigonis densissime imbricatis, nuculis apices versus ramulorum axillaribus oblongis compressis striatis apice rotundatis.

New Zealand, Great Barrier Island, alt. 2,000 ft., *T. Kirk*; Manukao harbour, and Tatirangi range, *T. F. Cheeseman*.

Arbor dioica, 40–60-pedalis, trunco 2–3 ped. diametro; cortice rufo-brunneo, ligno rufo; rami patentes demum ascendentes. *Folia* ramis junioribus non floriferis 1–1½ poll. longa, disticha v. sparsa, in petiolum brevissimum semi-tortum angustata, coriacea, mutica, nitida, costa supra distincta subtus obscura, marginibus tenuiter cartilagineis; ramuli fructiferi apicem versus arboris densissime fastigiati dichotome ramosi, foliis parvis opacis densissime imbricatis et appressis tecti. *Amenta*

♂ terminalia, sessilia, solitaria, $\frac{1}{8}$–$\frac{1}{4}$ poll. longa, squamis laxe imbricatis; ♀ terminalia, solitaria, $\frac{1}{4}$–$\frac{1}{2}$ poll. longa, e squamis fructiferis 3–5-tumidis. *Nuculæ* 3–5 compressæ, angulis rotundatis, obscure striatæ.

This tree somewhat resembles *Cunninghamia lanceolata*, but that its habit and foliage give it a softer appearance. Very old trees on the mountains entirely lose their large leaves, but on the lowlands they are retained sometimes to the height of 40 feet, and occasionally both kinds of leaves and fruit may be seen on the same branch. A small tree, producing male catkins and entirely without its early leaves, was observed near the summit of Munga hills.—*J. Kirk.*

This noble species is most nearly allied to *D. Colensoi*, but differs so conspicuously in the size of the foliage that there can be no difficulty in recognising it.—*J. D. Hooker.*

Fig. 1. Sterile branch and leaves. 2. Enlarged view of fertile do. 3. Female catkin. 4. Nucules. All but No. 1 enlarged.

Plate 1220.

LAMPROTHAMNUS ZANGUEBARICUS, *Hiern.*

Rubiaceæ, Tribe Albertieæ.

Lamprothamnus, *Hiern. in Oliv. Fl. Trop. Afr.*, vol. iii. p. 130 *ined.*

Calyx basi calyculatus tubo urceolato breviter et late lobulato, lobis æstivatione imbricatis. *Corolla* rotata, tubo cylindrico sursum leviter dilatato, limbo 6–7-partito, lobis ovali-oblongis patentibus æstivatione contortis. *Stamina* 6–7 exserta, fauce inserta; filamenta brevia; antheræ dorso prope basin affixæ, angustæ lineares, recurvæ. *Discus* annularis carnosulus. *Ovarium* bi- (rarius uni-)loculare; stylus elongato-clavatus exsertus superne puberulus; stigma minute bifidum; ovula solitaria, pendula. *Fructus* ignotus.—Frutex v. arborescens. Folia *opposita oblongo- vel elliptico-lanceolata v. -ovata obtusiuscula, tenuiter coriacea, venosa, nitentia.* Stipulæ *coriaceæ, deltoideæ, acutæ.* Flores *mediocres,* '*albi, fragrantes,*' *in corymbis multifloris densis subterminalibus dispositi.*

L. zanguebaricus, *Hiern l. c. sp. unica.*

Hab. Dar Salam, Zanzibar, *Dr. Kirk.*

Folia basi rotundata v. plus minus cordata, brevissime petiolata, 2–3$\frac{1}{2}$-poll. longa, 1–2-poll. lata. *Inflorescentia* folia vix superans 1$\frac{1}{2}$–2$\frac{1}{2}$-poll. lata. *Corolla* tubo $\frac{1}{4}$-poll. longo, lobis $\frac{3}{8}$ poll. longis.—D. Oliver.

Fig. 1. Expanded flower. 2. Diagram showing the contorted æstivation. 3. Anthers. 4. Ovary and calyx-tube, in vertical section.

Plate 1221.

CYCLONEMA SPINESCENS, *Oliv.*

VERBENACEÆ.

C. spinescens, *Oliv.* Frutex? spinescens; rami pilis brevibus patentibus hirto-pubescentes, foliis late ellipticis vel ovatis v. rotundatis obtusis mucronatis utrinque hirto-vel subvelutino-pubescentibus subsessilibus, spinis supra-axillaribus rectis patentibus folio brevioribus, pedunculis axillaribus unifloris rectis apicem versus bibracteolatis, bracteolis anguste linearibus, calyce campanulato 5-fido piloso lobis ovatis acutis, corollæ tubo calycem paullo superante, labio superiore bipartito, inferiore tripartito, lobis obovatis apice obtusis v. late acutatis, staminibus exsertis adscendentibus, ovario glabro.—*Journ. Linn. Soc.* xv. p. 96.

HAB. Lake Tanganika or region round about, *Commander Cameron.*

Folia $\frac{2}{3}$–$1\frac{1}{2}$ poll. longa. *Flores* 1–$1\frac{1}{2}$ poll. diam; calyx $\frac{1}{3}$–$\frac{1}{2}$ poll. longus.—D. OLIVER.

Fig. 1. Flower, side and 2. Front view. 3. Anther. 4. Calyx.

Plate 1222.

FICUS NORONHÆ, *Oliv.*

ARTOCARPACEÆ, Tribe FICEÆ.

F. Noronhæ, *Oliv.*, arborescens, glabra, rami crassi annulati, foliis petiolatis obovato-ellipticis v. ellipticis obtusis basi obtusis v. anguste subcordatis, venis primariis lateralibus utrinque 6–7, integerrimis lævibus, stipulis caducis oblongo-lanceolatis -ovatisve acuminatis, receptaculis depresso-globosis glabris lævibusque sessilibus solitariis, bracteis 2–3 basalibus coriaceis late rotundatis, floribus stipitatis sessilibusve, perianthii segmentis concavis obtusis, stigmate ut videtur bifido papilloso.

HAB. Fernando Noronha, St. Michael's Mount (all over the upper part of the rock, reaching 30 ft. in height; aerial roots like those of the Banyan), *Mr. Moseley* (*Challenger* Expedition).

Folia 3–6 poll. longa, tenuiter coriacea glaberrima, nervo medio subtus prominente ; petiolus $\frac{1}{4}$–$\frac{3}{4}$ poll. longus. *Stipulæ* $1\frac{1}{2}$ poll. longæ. *Receptacula* $\frac{1}{2}$–$\frac{3}{4}$ poll. diam.—D. Oliver.

Fig. 1. Receptacle and basal bracts. 2. Flower. 3. Pistil.

Plate 1223.

LORANTHUS STENOPETALUS, *Oliv.*

Loranthaceæ.

L. stenopetalus, *Oliv.*, ramulis teretibus gracilibus glabris, foliis tenuiter coriaceis ovali- v. oblongo-lanceolatis plus minus acuminatis basi in petiolum angustatis integris glabris rete venarum inconspicuo, floribus racemosis, racemis axillaribus folio brevioribus, pedicellis brevibus 2–3-floris 2–3-bracteolatis, calycis puberulis margine libero sinuato v. dentato, petalis 6 angustissimis basi æqualiter in tubo inflato coalitis supra medium per anthesin reflexis, antheris anguste linearibus apice apiculatis.—*Journ. Linn. Soc.* xv. p. 99.

Hab. Gorontalo, North Celebes, *Riedel*.

Folia 4–$5\frac{1}{2}$ poll. longa, 1–$1\frac{1}{2}$ poll. lata ; petiolus $\frac{1}{4}$ poll. vel longior. *Flores* $\frac{3}{4}$–1 poll. longi.—D. Oliver.

Fig. 1. Pair of flowers with bracteoles and pedicel, enlarged. 2. Anther.

Plate 1224.

DELPHINIUM GLACIALE, *Hook. fil. et Thoms.*

Ranunculaceæ.

D. glaciale, *Hook. fil. et Thoms.*, caule simplici vel basi ramoso, foliis reniformibus tripartitis segmentis late cuneatis palmatim multifidis lobis oblongo-lanceolatis obtusiuscule glanduloso-mucronatis, floribus maximis pilosis solitariis vel in racemis paucifloris corymbosis foliosis dispositis, calcare decurvo sepalo subbreviore.—*Flora Indica*, i. p. 53 and *Flora Brit. India*, i. p. 27.

Hab. Alpine Sikkim, 16–18,000 ft., *Dr. Hooker*! gathered also by a native collector employed by Mr. Elwes.

Herba 4–8 pollicaris tota pilis laxis patentibus hirsuta 'et moschum putridum redolens.' *Folia* 2 poll. diam, radicalia petiolo 2–3 poll. longo. *Pedunculi* erecti $1\frac{1}{2}$–3 poll. longi. *Flores* inflato-globosi pallide cærulei. *Sepala* membranacea nervosa 1–$1\frac{1}{3}$ poll. longa late elliptica v. rotundato-elliptica, postica obtuse apiculata galeata, calcare $\frac{2}{3}$ poll. longo. *Petala* lateralia obovato-lanceolata bifida laxe hirta, posteriora longiora lamina oblanceolata apice bidentata. *Stamina* filamentis membranaceis inferne dilatatis, sursum sparse ciliatis. *Carpella* 5 glabrata.—D. Oliver.

Fig. 1. Diagrammatic view of flower in front. 2. Lateral, and 3. Posterior petals.

Plate 1225.

BOERHAAVIA SCHOMBURGKIANA, *Oliv.*

Nyctagineæ.

B. Schomburgkiana, *Oliv.*, caule minutissime pruinoso-puberulo, glabrato, foliis subcarnosulis ovato- v. obovato-ellipticis late acutatis obtusisve sinuatis sublobatis vel integris glabris petiolatis, pedunculis axillaribus brevibus sæpius trifloris, pedicellis brevibus apice 1–3-bracteolatis, bracteolis subulatis, floribus monandris, perianthii limbo campanulato v. suburceolato carnosulo margine obtuse denticulato, fructu clavato tetragono 4-canaliculato, canaliculis parce pruinoso-glaucescentibus.

Hab. Vicinity of Lake Eyre, South Australia, *Mr. Andrews* (communicated by Dr. R. Schomburgk).

Folia $\frac{1}{2}$–1 poll. longa $\frac{1}{4}$–$\frac{1}{2}$ poll. lata; petiolus $\frac{1}{8}$–$\frac{1}{2}$ poll. longus. *Pedunculi* 1–2 lin. longi; pedicelli $\frac{1}{2}$–1 lin. longi. *Perianthium* limbo $\frac{1}{2}$–1 lin. longo. *Fructus* $\frac{1}{4}$ poll. longus.—D. Oliver.

Fig. 1. Fasciculus of flowers. 2. Stamen, style, and stigma. 3. Fruit.

Plate 1226.

OXALIS NORONHÆ, *Oliv.*

Geraniaceæ, Tribe Oxalideæ.

O. Noronhæ, *Oliv. sp. nov.* Caule fruticoso, simplici v. ramoso hirto-pubescenti apice folioso, foliis 3–foliolatis foliolis ovato-ellipticis obtusiuscule acutatis subtus pubescentibus, lateralibus obliquis brevissime petiolulatis, pedunculis axillaribus folio sæpe longioribus apice tantum floriferis, pedicellis calyce sæpius brevioribus articulatis, ovulis solitariis.

Hab. Island of Fernando Noronha, *C. Darwin*, *Mr. Moseley* ('Challenger' Expedition).

Caulis 1–2 pedalis, erectus v. interdum tortuosus et nodosus, pilis brevibus patentibus pubescens. *Folia* alterna; foliola 1–2 poll. longa, supra glabrescentia; petiolus adscendens 1–2½ poll. longus. *Pedunculi* erecti, pubescentes, 1–3 poll. longi, vix complanati. *Calyx* pilosus, sepalis ovato-lanceolatis. *Petala* lutea, obtusa, calyce subduplo longiora. *Stamina* basi brevissime coalita. *Ovarium* glabrum profunde 5–lobum, lobis dorso tricostatis apice deinde breviter et obtuse productis; ovula solitaria.

Allied to *O. insipida*, St. Hil., and in *facies* near Gardner's *Oxalis* (No. 2080), collected in Piauhy.—D. Oliver.

Fig. 1. Bud. 2. Expanded flower. 3. Essential organs after removal of sepals and petals (all enlarged).

Plate 1227.

ANCRUMIA CUSPIDATA, *Harvey.*

Liliaceæ, Suborder Gilliesiaceæ.

Ancrumia, *Harvey MSS. in Herb. Kew.* *Perianthium* viride gamophyllum, tubo campanulato, limbi regularis segmentis tribus exterioribus lanceolatis acuminatis, tribus interioribus linearibus. *Stamina* 6 exteriora minutissima squamæformia; 6 intermedia minuta squamæformia sterilia; interiora 3, 2 perfecta filamentis filiformibus basi deltoideis,

antheris lineari-oblongis versatilibus; tertium sterile squamæforme deltoideum. *Ovarium* trilocnlare, stylo subulato capitato. *Capsula* ignota. —*Herba bulbosa habitu Gageæ, scapo nudo, foliis* 1–2 *synanthiis linearibus glabris, umbellis* 6–12 *floris, spathæ valvis lanceolatis membranaceis.*

A. cuspidata, *Harv. MSS., species unica.*

Hab. Coquimbo, Chili, *Dr. Harvey.*

Bulbus ovoideus, 8–9 lin. crassus. *Folia* linearia subpedalia carnoso-herbacea glabra, medio 3–4 lin. lata, venis immersis. *Scapus* debilis nudus sesquipedalis vel bipedalis. *Umbella* 6–12 flora, pedicellis 1–4 poll. longis apice cernuis. *Perianthium* 10–11 lin. longum, segmentis exterioribus 3 lin. latis. *Stamina* perfecta 2 lin. longa.

Of this interesting novelty we have in the Kew herbarium, in addition to Dr. Harvey's specimens, a drawing from the life, of which the plate is a copy, and a detailed description drawn up by its discoverer, John Buchanan, Esq., of Coquimbo. He says that 'it flowers in July and August, growing on sandy and stony soil, usually under cactus-bushes and other shrubs, and that it is very common in the neighbourhood of Guayacan.'—J. G. Baker.

Fig. 1. Flower opened out.

Plate 1228.

LANDOLPHIA CAPENSIS, *Olir.*

Apocynaceæ, Tribe Carisseæ.

L. capensis, *Olir. sp. nov.* Frutex scandens, ramulis ultimis puberulis mox glabratis, foliis coriaceis pollicaribus ovato- vel oblongo-ellipticis obtusis basi plus minus rotundatis puberulis vel supra glabratis, pedunculis apice multifloris interdum breviter 2-fidis ramosisve, floribus sessilibus, calyce dense ferrugineo-hirsuto, corollæ tubo hirto calyce 3-plo longiore segmentis patentibus oblanceolato-oblongis obtusis.

Hab. Transvaal, near Pretoria, *Mr. McLea*; Macalisberg Mountains, *Mr. Burke*; also amongst the 'Diamond Fields' plants of *Mr. W. Tuck.*

Folia $\frac{3}{4}$–$1\frac{1}{3}$ poll. longa, 4–8 lin. lata, coriacea plana subtus plus minus puberula venulis arcte sed sæpe inconspicue articulata; petiolus 1–2 lin. longus. *Pedunculi* terminales v. laterales interdum cirrhiformes, 1–2 poll. longi. *Flores* $\frac{3}{4}$–1 poll. lati odorati.

The fruit is described in Mr. McLea's label as of the 'size of a marble,' and 'highly scented.'—D. Oliver.

Fig. 1. Bud. 2. Diagram of æstivation. 3. Expanded flower. 4. Stamen (enlarged).

Plate 1229.

CHIRONIA (XANTHOCHIRON) EXIGUA, *Oliv.*

Gentianaceæ, Tribe Chironieæ.

C. exigua, *Oliv. sp. nov.*; herba annua tenuis glabra simplex v. superne ramosa; foliis inferioribus squamiformibus, superioribus linearibus acutis, floribus flavis in cymis paucifloris terminalibus dispositis rarius solitariis, calyce 5–fido segmentis lanceolatis acutis, corollæ lobis ovato-ellipticis obtusis tubo longioribus.

Hab. South extra-tropical Africa: Orange Free State and the Diamond Fields, *Mrs. Barber.*

Herba 3–6 (–10) pollicaris erecta. *Folia* parva remota linearia, superiora $\frac{1}{4}$–$\frac{1}{2}$ poll. longa, inferiora sæpius minuta. *Pedicelli* erecti, floris centralis $\frac{1}{4}$–1 poll. longi. *Flores* 6–8 lin. diam. *Calyx* 5–nervius tempore florifero haud carinatus. *Antheræ* exsertæ immutatæ. *Ovarium* 1–loculare; placentis 2 bipartitis multiovuliferis; stigma breviter bifidum lobulis crassiusculis.—D. Oliver.

More like some of the smaller species of *Sebæa* than any *Chironia*, and possibly deserving generic separation.

Fig. 1. Bud, the calyx ill-drawn, but showing the æstivation of the corolla. 2. Expanded flower. 3. Pistil and 3* transverse section of the ovary. 4. Anther.

Plate 1230.

MACGREGORIA RACEMOSA, *F. Muell.*

Stackhousiaceæ.

M. racemosa, *F. Muell., Fragm. Phytogr. Austral.* viii. 161, *species unica.*

Hab. Central Australia, MacDonnell Range, *E. Giles.*

Herba annua, erecta v. adscendens, multicaulis, glabra, semipedalis v. paullo altior. *Folia* sparsa, pauca, linearia, acutiuscula, integerrima, pleraque semipollicaria, summa floralia ad bracteas parvas reducta. *Pedicelli* in axillis superioribus solitarii, uniflori, plerique 2–4 lin. longi. *Calycis* segmenta linearia, lineam longa, basi brevissime carinata. *Petala* 5, libera, unguibus in tubum calyce longiorem conniventibus, laminis patentibus, oblongis, 2–2½ lin. longis. *Stamina* 5, unguibus petalorum breviora, filamentis brevissimis liberis; antheræ appendice parva ovata terminatæ. *Ovarium* liberum, sessile, sub-5-lobum, styli basi dilatata adnata crassiuscula coronatum. *Styli* lobi intus stigmatosi 5, sessiles radiato-patentes. *Fructus* carpella 5 indehiscentia, 1-sperma. *Semen* erectum, albumine carnoso. *Embryo* rectus, radicula brevi infera.

This pretty plant, evidently allied to *Stackhousia*, differs, however, essentially in the pentamerous ovary, and the remarkable fleshy cap or base of the style crowning the apex of the carpels.—G. Bentham.

Fig. 1. Bud. 2. Flower expanded. 3. Petal. 4. Stamens, back and front view. 5. Pistil.

Plate 1231.

CHORITÆNIA CAPENSIS, *Benth.*

Umbelliferæ, Tribe Seselineæ.

Choritænia, *Benth. in Benth. et Hook. Gen. Pl.* i. 907; Pappea, *Sond. et Harv. Pl. Cap.* ii. 502, *non Eckl. et Zeyh.*

C. capensis, *Benth. l.c. species unica.*

Hab. South Africa, Nieuwejaaresspruit, *Zeyher*; in sandy localities where water occasionally lodges, Griqualand West, *M. E. Barber.*

Herba ut videtur annua, parvula, subacaulis v. prostrata, præter fructum glabra. *Caules* (seu radii primarii umbellæ inter folia radicalia sessilis?) plures (5–10) valde inæquales, plerique 1–3-pollicares, prostrati v. divaricati, apice umbellulam densam foliosam simplicem v. in longioribus proliferam ferentes, cæterum aphylli. *Folia* dissecta, segmentis paucis linearibus brevibus, radicalia sæpius petiolo ¼–½-pollicari fulta, floralia umbellulas involucrantia similia nisi sessiliora, omnia tamen flores superantia. *Flores* sat numerosi, minimi, inter folia radicalia ad basin caulium et ad apices simplicium v. ad ramificationes proliferorum dense conferta subsessilia. *Calycis* dentes lati breves v.

obsoleti. *Petala* alba, late ovata, induplicato-valvata, apice inflexa, costa dorso impressa intus prominente. *Fructus* (adhuc vix perfecte maturus) ovatus, a dorso valde compressus, setis seu papillis crassis hyalinis pube brevi intermixtis obtectus, lineam fere longus, jugis inconspicuis præter lateralia quæ marginem crassiusculam formant. *Vesiculæ* oleosæ globosæ v. oblongæ, dissitæ, juxta margines carpellorum utrinque serie verticali dispositæ (e vittis disruptis oriundæ).

The singular arrangement of the vesicles, which replace the vittæ in this little plant, as well as the peculiar habit and inflorescence, distinguish it as a genus from all other Umbelliferæ.—G. Bentham.

Fig. 1. Flower. 2. A petal, seen from inside. 3. Vertical section of one carpel, showing the vesicles and the terminal stylopod. 4. Transverse section of the two carpels, showing the position of one vesicle in each.

Plate 1232.

ONCINOTIS HIRTA, *Oliv.*

Apocynaceæ, Tribe Euechitideæ.

O. hirta, *Oliv. sp. nova*; ramis teretibus pilis brevibus ramulosis v. subfurfuraceis cinnamoneo-tomentellis, foliis obovato-oblongis obtusis brevissime apiculatis basi rotundatis, subtus stellato-hirtis supra glabratis, nervis lateralibus utrinque 5–7, racemis axillaribus folio sæpe longioribus simplicibus v. parce ramosis, floribus fasciculatis interruptis.

Hab. Loango, West Tropical Africa, *H. Soyaux.*

Folia breviter petiolata, 2–4½ poll. longa 1½–2½ poll. lata. *Bracteæ* minutæ, late ovatæ, concavæ. *Flores* ¼ poll. longi, subsessiles. *Calyx* tomentosus segmentis ovatis obtusiusculis. *Corolla* lobis oblongo-lanceolatis tubo subæquilongis patentibus recurvisve, fauce squamis brevibus obtusis subexsertis instructa, tubo intus ad insertionem staminum pilis reflexis dense villoso basin versus glabro. *Antheræ* nudæ lineares acuminatæ; filamenta brevissima penicillata. *Discus* lobis 5 ovario hirto brevioribus carnosulis ad medium coalitis. *Fructus* . . . . D. Oliver.

Fig. 1. Expanded flower. 2. Æstivation. 3. Stamens and squamæ of the faux. 4. Anther. 5. Ovary and lobes of disk. 6. Style and stigma.

Plate 1233.

PARINARIUM CAPENSE, *Harvey.*

Rosaceæ, Tribe Chrysobalaneæ.

P. capense, *Harv.*, Fl. Capensis, ii. 597. Fruticulus depressus: foliis oblanceolato-oblongis v. ovalibus acutiusculis obtusisve basi angustatis, subtus albido-tomentellis supra glabrescentibus, cymis paniculatis sæpius subsessilibus multifloris piloso-tomentosis, bracteis ovatis acutis intus glabris.

Hab. Cape of Good Hope, Aapjes river, *Zeyher and Burke*; near Pretoria, Transvaal, *Mr. McLea.* Collected also at 'Sesheke' in 1860 by *Dr. Kirk.*

Folia 2–3 poll. longa, $\frac{1}{2}$–$\frac{3}{4}$ poll. lata; pedicelli brevissimi. *Inflorescentia* sæpius pyramidata 1–2 poll. longa et lata; pedicelli 1–2 lin. longi vel flores subsessiles. *Calyx* lobis ovato-lanceolatis acutis tubo ad faucem intus dense annulatim hirsuto. *Petala* anguste obovata calycis lobos vix æquantia. *Stamina* antherifera circiter 8. *Ovarium* biloculare dense hirsutum.

The above description applies to the ordinary form of the plant; but a broad-leaved form, varying in stature from a few inches to the size of a chestnut tree (according to Dr. Welwitsch), occurs in Angola. The fruit is edible.—D. Oliver.

Fig. 1. Flower. 2. Flower laid open, the ovary concealed by the dense hairs lining the throat of the calyx. 3. Petal. 4. Anthers. 5. Pistil and transverse (diagrammatic) section of ovary.

Plate 1234.

PEPLONIA AMAZONICA, *Benth.*

Asclepiadeæ, Tribe Cynancheæ.

P. amazonica, *sp. n.*, foliis membranaceis, corona exteriore explanata alte 5-fida, lobis late cuneatis dentatis.

Hab. Tabocal, Rio Purus, on the Upper Amazon, *J. W. H. Trail.*

Suffrutex volubilis, alte scandens, lactescens, glaber. *Folia* opposita, longiuscule petiolata, oblonga, acuta v. acute acuminata, 2–3-pollicaria, membranacea. *Cymæ* ad racemum simplicem reductæ, in una axilla paris pedunculatæ, folio breviores, 4–6 floræ, ebracteatæ. *Pedicelli* $\frac{3}{4}$ poll. v. demum pollicem longi. *Calycis* segmenta parva, obtusa. *Corolla* expansa $\frac{1}{2}$ poll. diametro, albido-flavescens, alte 5-fida, lobis lato-lanceolatis æstivatione valvatis. *Corona* exterior ad basin gynostegii brevis affixa, fere 5-partita, lobis late cuneatis truncatis dentatis supra basin corollæ horizontaliter expansis eaque 3–6-plo brevioribus; interioris squamæ oblongo-lineares erectæ, dorso antherarum plus minus adnatæ, apice incurvo eas superantes, membranæ terminali arcte adpressæ sed ab ea liberæ. *Stigma* subglobosum, umbone parvo superatum. *Folliculi* perfecti desunt, juniores post anthesin parum aucti ovoideo-oblongi, breviter acuminati.

The genus *Peplonia* was established by Decaisne on a single Brazilian species with more ovate thicker leaves, smaller flowers, with the outer corona less spreading and less deeply divided.—G. Bentham.

Fig. 1. Corolla and gynostegium. 2. Gynostegium, vertical section, showing the style within the staminal tube and two of the lobes of the outer corona. 3. Two spreading lobes of the outer corona and two erect narrow incurved lobes adnate to the backs of the stamens. 4. Pair of pollen masses.

Plate 1235.

CRATERISPERMUM LAURINUM, *Benth.*

Rubiaceæ, Tribe Vanguerieæ.

C. laurinum, *Benth. in Hook. Fl. Nigrit.* 411; foliis oblanceolato- vel obovato-oblongis breviter apiculatis basi cuneatis tenuiter coriaceis venulis ultimis subtus prominulis reticulatis, stipulis subtruncatis basi connatis, pedunculis axillaribus petiolo longioribus multifloris, alabastris glabris, corollæ lobis intus pilosulis, stylo (in spp. nostris) incluso. —Hiern in Oliv. Fl. Trop. Afr. iii. 160; *Coffea laurina*, Sm., DC. Prod. iv. 499.

Hab. West Tropical Africa, Sierra Leone, *T. Vogel* and others; Senegambia, *Heudelot*; Bagroo River, *G. Mann.*

Folia glaberrima 3–8 poll. longa, $1\frac{1}{2}$–$2\frac{3}{4}$ poll. lata; petiolus $\frac{1}{3}$–$\frac{3}{4}$ (–1) poll. longus. *Pedunculi* sæpius supra-axillares $\frac{1}{2}$–1 poll. longi; bracteæ deltoideæ brevissimæ. *Flores* $\frac{1}{3}$ poll. longi in cymis trichotomis sessiles.

Calyx limbo brevissimo 5–denticulato. *Corolla* tubo superne dilatato, limbi lobis ovato-lanceolatis. *Bacca* $\frac{1}{6}$–$\frac{1}{4}$ poll. diam.—D. Oliver.

Fig. 1. Expanded flower. 2. Longitudinal section of ovary and base of corolla. 3. Do. of fruit.

Plate 1236.

LAMPRA VOLCANICA, *Benth.*

Commelynaceæ.

L. volcanica, *Benth. Fl. Hartw.*, 95, *species unica.*

Hab. In the crater of the Volcan de Agua in Central America, at an elevation of 14,000 feet.

Herba semipedalis, erecta, glabra. *Folia* inferiora pauca, ad vaginam amplam laxam hyalinam reducta, superiora numerosa, in involucrum conferta, vaginis brevibus laxe imbricatis, laminis 2–3-pollicaribus lanceolatis breviter acuminatis basi parum angustatis utrinque glaberrimis, marginibus basi breviter ciliatis nudisve. *Flores* ad 20, in capitulum intra folia sessile conferti, pedicellis brevissimis crassis. *Perianthii* segmenta exteriora herbacea, in tubum angustum apice 3-dentatum demum hinc fissum $1\frac{1}{2}$ ad $1\frac{3}{4}$ poll. longum coalita; interiora tenuiter corollina, unguibus in tubum gracilem cylindraceum perianthio exteriore subduplo longiorem coalita, laminis 3 æqualibus patentibus 7–8 lin. longis latisque. *Stamina* 6, æqualia, tubo perianthii interioris affixa, filamentis liberis e tubo exsertis lamina brevioribus glabris; antheræ lineari-lanceolatæ, loculis rima longitudinali dehiscentibus. *Ovarium* in fundo perianthii sessile, oblongum, 2 lin. longum, 3-loculare, styli basi incrassata acuminatum. *Ovula* in quoque loculo 6, per paria inter se distanter superposita, infima adscendentia, superiora pendula v. unum cujusve paris adscendens. *Stylus* glaber, breviter exsertus, apice in discum margine stigmatosum dilatatus. *Fructus* ignotus, ex ovario verisimiliter capsularis.

Of this curious plant only a single specimen is known, gathered by Hartweg in the crater of the Volcan de Agua, near Guatemala, in August 1840. My friend Mr. Salvin, on his last journey to that country, kindly undertook to search for it, but his ascent of the mountain was not at the same time of year, and he could find no trace of it. It is said to be very ornamental, and its introduction to our planthouses would be very desirable.—G. Bentham.

Fig. 1. Flower. 2. Anther.

Plate 1237.

TRICHLORA PERUVIANA, *Baker.*

Liliaceæ, Suborder Gilliesiaceæ.

Trichlora, *Baker. Perianthium* viride regulare polyphyllum, segmentis tribus exterioribus lanceolatis acuminatis, tribus interioribus parvis latis obovato-cuneatis. *Stamina* 3 perfecta segmentis exterioribus opposita, filamentis lanceolatis, antheris ovato-globosis versatilibus; 3 segmentis interioribus opposita minuta squamæformia. *Ovarium* profunde trigonum; stylus cyathiformis, ramis tribus lanceolatis. *Capsula* ignota.—*Herba bulbosa habitu Gageæ, foliis* 3–4-*linearibus glabris, scapo nudo, umbellis* 4–6-*floris, spathæ valvis linearibus membranaceis.*

T. peruviana, *Baker. Species unica.*

Hab. Lima, Peru (four specimens in Herb. Kew, without collector's name).

Bulbus ovoideus, 5–6 lin. crassus, collo elongato, tunicis membranaceis. *Folia* carnoso-herbacea, glabra, subpedalia, $1\frac{1}{2}$–2 lin. lata, venis immersis. *Scapus* debilis, nudus, 6–9-pollicaris. *Umbellæ* 4–6-floræ, pedicellis gracillimis 6–18 lin. longis. *Perianthii* segmenta exteriora 7–8 lin., interiora 1 lin. longa. *Genitalia* perianthii segmentis interioribus æquilonga.—J. G. Baker.

Fig, 1. A flower opened out. 2. Inner perianth-segments, stamens, and pistil. 3. An anther and upper part of a filament.

Plate 1238.

SIPHOMERIS FŒTENS, *Hiern.*

Rubiaceæ, Tribe Pædérieæ.

S. fœtens, *Hiern in Oliv. Fl. Trop. Africa*, iii. 229, frutex scandens, ramis pubescentibus, foliis longe petiolatis ovatis apice abrupte apiculatis basi rotundatis truncatis cordatisve supra scabride puberulis subtus breviter hirto-tomentellis, pedunculis axillaribus folio subæquilongis vel in paniculis terminalibus dispositis apice cymis multifloris

breviter ramosis congestisve gerentibus, calycis hirti segmentis subulatis rigidulis apice recurvis corollæ tubo brevioribus, fructibus compressis ovato-ellipticis epicarpio papyraceo parce hirtello.

Hab. On the Zambesi and its tributary the Shire, *Dr. Kirk.*

Folia 2 poll. longa $1\frac{1}{2}$–$1\frac{2}{3}$ poll. lata; petiolus laminâ sæpius brevior, stipulæ ovato-lanceolatæ. *Pedunculi* rectiusculi pubescentes 2–3 poll. longi; cymæ poll. latæ. *Flores* flavidi fœtidi subsessiles v. brevissime pedicellati; bracteæ lineares v. subulatæ. *Calyx* scabrido-puberulus segmentis quam tubo 3–4-plo longioribus. *Corolla* segmentis ovato-oblongis intus hirtis. *Stamina* exserta. *Stylus* apice bifidus ramis recurvis angustis. *Fructus* $\frac{1}{2}$ poll. longus calycis limbo coronatus.

Dr. Kirk describes the whole plant as 'abominably fetid.' The structure of the fruit is singular. After the irregular rupture of the papery epicarp the two pyrenes remain suspended, each by a slender carpophore, which becomes free on the outer face of each pyrene, the disk of which is radiately ridged, and the margin produced into a continuous wing-like expansion.—D. Oliver.

Fig. 1. Bud. 2. Expanded flower. 3. Longitudinal section of ovary. 4. Fruit. 5. Outline of same in transverse section. 6. Diagram showing relation of carpophores and attached pyrenes. 7. Pyrene and carpophore.

Plate 1239.

NEURACHNE MUNROI, *F. Muell.*

Gramineæ, Tribe Andropogoneæ.

N. Munroi, *F. Muell. Fragm. Phyt. Austr.* viii. 200, spica anguste cylindracea breviter sericea, gluma extima acutiuscula subnuda, secunda acuminata margine longe ciliata.

Hab. Deserts of the Darling, in the interior of New South Wales, *Beckler.*

Caules e basi ramosa sublanata v. glabrescente erecti, rigiduli, $\frac{1}{2}$–1-pedales. *Folia* ad basin caulis angusta, in sicco convoluta, caulina pauca, vagina longa non ciliata, nodis villosulis. *Spica* angusta, cylindracea, 1–2-pollicaris, rhachi pubescente. *Spiculæ* angustæ, $2\frac{1}{2}$–3 lin. longæ, basi fasciculo pilorum brevium cinctæ. *Gluma* exterior tenuis, 5–7-nervis, glabra v. margine ciliis raris cincta, acuta at non acuminata, 2a. longior, rigidior, prominule 7-nervis, acute acuminata, juxta marginem præsertim in parte inferiore longe ciliata, pilis

tamen in spica multo minus conspicuis quam in *N. alopecuroidea*; 3a. brevior, angustior, multo tenuior 5-nervis, glabra, paleam parvam sæpius fovens; terminalis florida multo brevior, tenuissima, hyalina. *Palea* pariter hyalina sed major, basi utrinque auriculata, dorso 2-costata.—G. Bentham.

Fig. 1. Spikelet seen from the back of the outer glume. 2. Second glume, back view.

Plate 1240.

NEURACHNE MITCHELLIANA, *F. Muell.*

Gramineæ, Tribe Andropogoneæ.

N. Mitchelliana, *Nees in Hook. Lond. Journ.* ii. 410, spica anguste cylindracea breviter villosa, gluma extima margine ciliata dorso supra areolam latam cavam transversim callosa, callo pilis longis patentibus ciliato, secunda infra medium margine longe ciliata.

Hab. Interior of New South Wales, deserts from the Darling to the Barrier Range, *Mitchell, Victorian Expedition*, and others.

Caules e basi nodosa lanata plures, erecti, subpedales, fere ad apicem foliati, apice sub spica sæpe lanati. *Folia* patentia, brevia, plana, rigidula, parce ciliata, ligula dense ciliata. *Spica* anguste cylindracea, 1–1½-rarius 2 poll. longa, rhachi pubescente. *Spiculæ* ad 2 lin. longæ, fasciculo pilorum cinctæ. *Gluma* extima plurinervis, superne angustata sed obtusa, margine ciliata, dorso in parte inferiore areola late ovata cava margine callosa cincta notata, intra areolam tenuissime membranacea, supra areolam callo transversali longe piloso aucta; 2a. primæ æquilonga, infra medium lata longeque ciliata dorso pubescens, superne glabriuscula; 3a. brevior, glabra v. vix pubescens nec ciliata, pariter vacua v. paleam parvam fovens; terminalis florida minor, tenuis, glabra. *Palea* subæquilonga, tenuis, 2-costata.—G. Bentham.

Fig. 1. Spikelets seen from the back of the outer glume. 2. Outer glume seen from the inside.

Plate 1241.

NEURACHNE ALOPECUROIDEA, *R. Br.*

GRAMINEÆ, Tribe ANDROPOGONEÆ.

Neurachne, *R. Br.* *Spiculæ* flore unico terminali perfecto in spicam ovoideam v. cylindraceam confertæ. *Glumæ* 4, 2 exteriores majores plurinerves vacuæ; 3a. minor, tenuior, sub-5-nervis, paleam parvam sæpius fovens; terminalis florida tenuis, hyalina, tenuiter 3–5-nervis. *Palea* glumæ floridæ æqualis v. major, tenuis, hyalina, 2-costata. *Styli* 2, distincti. *Caryopsis* libera, glumis inclusa.

N. alopecuroidea, *R. Br. Prod.* 196, Spica ovoidea v. breviter oblonga sericea, glumis exterioribus acuminatis, prima dorso secunda margine longe ciliatis.

HAB. Southern colonies of Australia, from the western districts of Victoria to King George's Sound and Swan River.

Gramen perenne, erectum, 1–1½-pedale, glabrum. Folia ad basin caulis brevia, plana, rigidula, caulina pauca, parva; vagina ad oram dense ciliata. *Spica* ovoidea v. oblonga, latiuscula, densa, ¾–1 poll. longa, dense sericea, glumarum tamen acuminibus viridibus prominentibus. *Spiculæ* numerosæ, sessiles, ad 3 lin. longæ, nonnullæ ad basin spicæ minores, steriles v. ad glumam unicam reductæ. *Gluma* exterior 5–7-nervis, acute acuminata, pilis longis patentibus margine dorsoque ciliata; 2a. pariter vacua, paullo major longiusque acuminata, 7–9-nervis, margine pilis longis patentibus ciliata; 3a. paullo minor, vix acuminata, nervis paucioribus breviter pubescentibus nec longe ciliatis, paleam v. floris rudimentum fovens; terminalis florida parva, tenuis, fere hyalina, tenuiter 5-nervis. *Palea* tenuis, glumæ floridæ æquilonga v. paullo longior, prominenter 2-costata.

The genus *Neurachne*, originally established for this species, has been generally placed amongst Paniceæ, but the very reduced thin and hyaline flowering glume and palea, notwithstanding the absence of any twisted awn, appear to me to be characteristic of the Andropogoneæ, where it would take its place near *Perotis* and a few other genera in which the spikelets are arranged all round the rhachis of a simple spike or raceme.—G. BENTHAM.

Fig. 1. Outer empty glumes of the spikelet seen from the back of the lowest. 2. Lowest glume seen from inside. The spike drawn was a rather longer and narrower one than usual.

Plate 1242.

PLAGIOSETUM REFRACTUM, *Benth.*

GRAMINEÆ, Tribe PANICEÆ.

Plagiosetum, *Benth. gen. nov.* *Spiculæ* 1-floræ, ramis sterilibus pedunculi 3–4 setaceo-multifidis involucratæ, in involucro solitariæ v. geminæ sessiles inarticulatæ, involucris in racemo simplici pedunculatis cum pedunculo spiculaque fructifera articulatim deciduis. *Glumæ* 4, 3 exteriores multinerves vacuæ, terminalis florida minor demum cum palea indurata, caryopsin includens.

P. refractum, *Benth., species unica.* *Pennisetum refractum*, F. Muell. Fragm. viii. 109; *Setaria refracta*, F. Muell. Fragm. iii. 147.

HAB. Interior of Australia, Cooper's Creek, *Howitt's Expedition*; Alice Springs, *Giles*.

Gramen glabrum, divaricato-ramosum, prostratum v. ramis adscendentibus subpedale. *Folia* angusta, plana, subulato-acuminata. Racemi rhachis 3–6-pollicaris. *Pedunculi* secus rhachin distantes, rigiduli, complanati, infra involucrum 3–4 lin. longi, primum erecti demum patentes v. reflexi, ima basi articulati, cum involucro spiculaque matura decidui, apice 3–4-fidi, ramis in setas longas capillares divisis, involucrum constituentes. Spicula intra ramos sessiles, addita rarius altera in uno ramo altius sessili. *Glumæ* vacuæ 3, multinerves, 2a. 3a.que subæquales, inferior triente brevior; gluma florida *Setariæ*, vacuis minor, fructifera cum paleæ semiinclusæ valde indurata, lævis v. sublente minute rugosa. *Styli* a basi distincti.

I had at first, when the drawing was made, followed F. Mueller in referring this curious grass to *Pennisetum*, regarding it only as a very distinct section, but General Munro has shown me that that would require too great a modification of the generic character of *Pennisetum*, which, added to the very great difference in habit, has induced me to adopt it as a distinct genus.—G. BENTHAM.

Fig. 1. Involucre and spikelet. 2. Empty glume, seen from inside. 3. Flowering glume embracing the palea.

Plates 1243, 1244.

SPINIFEX PARADOXUS, *Benth.*

Gramineæ, Tribe Paniceæ.

S. pâradoxus, *Benth. Fl. Austral.* vii. *ined.* Spicis uni-pauci-spiculatis globoso-capitatis, rhachibus in aristam brevissimam productis, marium bracteis capitulo brevioribus fœminearum demum acutis obliquis heteromorphis. *Neurachne paradoxa*, R. Br. App. Sturt Exped. 26; *Panicum pseudoneurachne*, F. Muell. Fragm. viii. 199.

Hab. Desert interior of extratropical Australia, from the Darling to Cooper's Creek and Lake Eyre, *Dallachy*, *Giles*, *Andrews*, and others.

Plantæ juniores et masculæ laxe ramosæ, foliis nonnullis longis planis flaccidis; fœmineæ fructiferæ divaricato-v. fasciculato-ramosæ, rigidæ, fragiles. *Capitula mascula* in vagina brevi folii floralis sessilia, quasi lateralia, globosa $\frac{1}{2}$–$\frac{3}{4}$ poll. diametro, e spiculis seu spicis 2–3-spiculatis plurimis subsessilibus composita, rhachi spicarum v. pedicello brevissimo spicularum in aristam spicula ipsa breviorem producto. *Bracteæ* sub spicis spiculisve lanceolatæ, 1–2 exteriores spicula vix breviores, cæteræ parvæ angustæ. *Spiculæ* ad 3 lin. longæ, exteriores sæpius in pedicello brevissimo solitarii, interiores in pedicellis parum elongatis sæpe 2. *Glumæ* 4, herbaceæ, 3–5-nerves, 2 exteriores vacuæ paullo minores, 2 interiores paleam æquilongam 2-costatam et stamina 3 foventes. *Capitula fœminea* masculis latiora, irregularia, bracteis per anthesin lato lanceolatis spiculas æquantes stipata. *Spiculæ* in capitulo pleræque sessiles. *Glumæ* 4, 2 exteriores vacuæ herbaceæ 7–9-nerves, 3a. paullo longior, tenuior, pariter nervosa et vacua v. paleam parvam angustam fovens; terminalis florida vix brevior, tenuis, nervis vix conspicuis. *Palea* tenuis, tenuiter 2-nervis. *Styli* a basi distincti, stigmatibus longis plumosis. In *capitulo fructifero* bracteæ exteriores 3–5 varie auctæ rigidule membranaceæ patentes $\frac{1}{2}$–1-pollicares, aliæ lato-lanceolatæ v. ovatæ æquales, aliæ valde obliquæ latæ irregulariter venosæ et sæpe hinc unidentatæ. *Caryopsis* gluma terminali paleaque induratis brevibus inclusa.

When Brown suggested that this curious plant might be an anomalous *Neurachne* he had only seen fragments of female specimens, which had nothing to indicate that they might not have been hermaphrodite

with the stamens fallen away. F. Mueller, with more perfect specimens, male and female, before him, referred it to *Panicum* on account of the smooth hardened fruiting glume and palea. He unfortunately, however, overlooked the absolutely dicœcious character of the plant, which, as well as the capitate inflorescence, appears to me to refer it to *Spinifex*, notwithstanding the apparent discrepancy arising from the small size of the heads of spikes or spikelets, and from the rhachis or pedicels being produced only into very short points, which, however, are the true representatives of the long spines so prominent in the common maritime species of *Spinifex*.

The troublesome prickly Gramineæ, known to Australian explorers by the name of *Spinifex*, belong to the very different genus *Triodia*. —G. Bentham.

Plate 1243, male plant.—Fig. 1. Two spikelets on a common pedicel, produced into a very short point. 2. A spikelet with its four glumes and two paleas, the pedicel produced into a short point.

Plate 1244, female plant.—Fig. 1. Spikelet with three outer empty glumes, the 3rd with a narrow palea, the 4th enveloping the flower. 2. Flowering glume embracing the palea. 3. A bract at the time of flowering. 4. Bracts and glumes of the fruiting spikelet.

Plate 1245.

RUMEX NEGLECTUS, *T. Kirk.*

Polygonaceæ.

R. neglectus, *T. Kirk*, in Trans. N. Z. Inst. ix. (1876) 493. Herbula 1–3-pollicaris perennis; foliis rosulatis petiolatis oblongis v. ovali-oblongis crenato-undulatis obtusis basi truncatis v. in petiolum plus minus angustatis, caule e basi dense florifero v. racemo superne interrupto, pedicellis sæpius recurvis, floribus hermaphroditis, perianthio campanulato fructu basi incrassato segmentis ejusdem exterioribus tubo æquilongis late oblongo- vel quadrato-ovatis obtusis, interioribus paullo longioribus lanceolatis acutiusculis dorso calliferis deinde utrinque breviter 1–2-dentatis.

Hab. Cook Strait, North Island, *T. Kirk*. Mr. Kirk cites shingly

beaches, Wellington and Dusky Bay (Mr. Buchanan), in his paper cited above.

Folia 1–2 poll. longa; petiolus lamina subæquilongus. *Perianthium* fructiferum 2–2½ lin. longum.—D. Oliver.

Fig. 1. Perianth laid open. 2. Fruiting perianth. 3. Same in section.

Plate 1246.

IRVINGIA BARTERI, *Hook. fil.*

Simarubeæ.

I. Barteri, *Hook. fil. in Trans. Linn. Soc.* xxiii. 167; foliis nitentibus ellipticis v. oblongo-ellipticis apiculatis v. breviter acuminatis basi cuneatis, racemis pauci- v. plurifloris in paniculis axillaribus sæpius folio brevioribus dispositis, calycis lobis ovato-rotundatis, petalis late ellipticis obtusis, stylo filiformi, fructu globoso pericarpio carnoso.—*Oliv. Fl. Trop. Afr.* i. 314; *Mangifera gabonensis*, *A. Le Comte in Journ. Pharm.* xxxi. 275.

Hab. West Tropical Africa, Prince's Island, and Rivers Muni and Camaroons, *Messrs. Barter* and *Mann*.

Arbor 30–50 pedalis, glaberrima. *Folia* tenuiter coriacea, breviter petiolata, 3–4½ poll. longa, 1⅓–2⅓ poll. lata; stipulæ subulato-lineares caducæ. *Pedicelli* sæpe fasciculati, 1–3 lin. longi. *Drupa* globosa 2½ poll. diam., endocarpio osseo.

A detailed account of this plant is given by M. Baillon in Adansonia, viii. 82.—D. Oliver.

Fig. 1. Flower, enlarged. 2. Longitudinal section of ovary and disk.

Plate 1247.

IRVINGIA MALAYANA, *Oliv.*

Simarubeæ.

I. malayana, *Oliv. in Hook. Fl. Brit. Ind.* i. 522; foliis coriaceis oblongo- vel ovato-ellipticis apice breviter acutatis basi late rotundatis v. interdum subcordatis, racemis axillaribus fasciculatis paniculatisve folio brevioribus.

Hab. Malacca, *Dr. Maingay.*

Folia 4–7 poll. longa, $1\frac{3}{4}$–3 poll. lata; petiolus 4–7 lin. longus. *Pedicelli* 1 lin. longi.

Dr. Maingay, in his MS. notes on this plant, states that the leaves are 'very minutely but distinctly pellucido-punctate.' I cannot discern these in the dry state, the leaves being coriaceous, but this character, coupled with the absence of bitter taste in the wood, renders the genus doubtfully Simarubeous, as remarked by Dr. Baillon. Dr. Maingay thought it allied to *Glycosmis*. His specimens are accompanied by dried fruits 2–$2\frac{1}{4}$ ins. long, drupaceous, with a rather thick bony putamen, becoming fibrous as it passes into the mesocarp. The seeds present, within the rather thick testa, a narrow belt of albumen, as I take it, on the outer sides of the large cotyledons. The floral structure is very similar to that of *I. Barteri*, and the occurrence of the genus *Irvingia* in Malaya adds another interesting link to the connection between the Malayan, Madagascar, and West Tropical African floras indicated by the singular genera, common to each, *Paropsia* and *Anisophyllea*. *Iodes*, too, strengthens this relationship.—D. Oliver.

Fig. 1. Flower, enlarged; stamens removed. 2. Longitudinal section of ovary and disk.

Plate 1248.

STENOGYNE ROTUNDIFOLIA, *A. Gray.*

Labiatæ, Tribe Prasieæ.

S. rotundifolia, *A. Gray in Proc. Amer. Acad.* v. 347, suffruticosa, foliis glabratis rotundis crenatis basi truncatis cordatisve, verticillastris 4–6-floris, pedicellis petiolo dimidio brevioribus, calyce glabro

breviter dentato, filamentis villosis, corolla elongata intus villosa exannulata.

Hab. Sandwich Islands, Haleakala in E. Mani, at an elevation of 6,000 to 7,000 feet, *H. Mann* and *Brigham*.

Caules rigidi, acute v. obtuse tetragoni, retrorsum scabro-pubescentes. *Folia* late ovata v. orbiculata, crenato-serrata, majora pollicaria basi late cordata, ramealia minora basi integra, crassiuscula, glabra v. basi ad venas parce hirtella, petiolo 2–3 lin. longo. *Flores* recurvi, pedicellis 1–2 lin. longis hirtellis. *Calyx* oblique campanulatus, glaber v. junior parce ad venas hirtellus, 10-nervis, breviter et inæqualiter 5-dentatus. *Corolla* pollicaris, incurva, extus tomentosa, tubo superne latiore; labium superius erectum, 3 lin. longum, latiusculum, emarginatum, inferius patens, breve, brevissime lateque 3-lobum. *Stamina* breviter e labio superiore exserta, filamentis villosulis. *Antherarum* loculi distincti, divaricati, demum reflexi. *Nuculæ* crassæ, calyce parum breviores, exocarpio carnoso, dorso rotundatæ, intus angulatæ.—G. Bentham.

Fig. 1. Flower. 2. Pistil. 3. Stamen. 4. Nutlet seen from inside.

Plate 1249.

ACHYROSPERMUM FRUTICOSUM, *Benth.*

Labiatæ, Tribe Stachydeæ.

A. fruticosum, *Benth. Lab. Gen. et Sp.* 643, caule duro, foliis ovatis, verticillastris 6–10-floris in spicam crassam basi subinterruptam confertis, corolla incurva calyce plus duplo longiore.

Hab. Interior of Madagascar, province of Emirna, *Bojer*.

Caules in speciminibus ultra-pedales, duri quasi lignosi sed ex schedula Bojeriana herbacei, teretes, puberuli v. glabrati. *Folia* 2–4-pollicaria, breviter acuminata v. fere obtusa, crenata, pilis rigidulis conspersa, petiolo $\frac{1}{2}$–1-pollicari superne dilatato. *Spica* terminalis intra folia summa subsessilis, 3–5-pollicaris, primum undique densa demum basi subinterrupta. *Bracteæ* (folia floralia bracteæformia) fere semipollicares, latæ, membranaceæ, in spica juniore quadrifariam imbricatæ. *Flores* brevissime pedicellati, rosei (v. albidi?). *Calyces* membranacei, latiuscule tubulosi, pubescentes, subincurvi, 4 lin. longi, ore parum obliquo breviter 5-dentato. *Corolla* 9–10 lin. longa, extus

pubescens, tubo incurvo, ad faucem parum dilatato; labium superius 1½ lin. longum, erectum, latum, emarginatum; inferius paullo longius, patens, late 3-lobum. *Stamina* e labio superiore exserta, antheris ovatis loculis parallelis. *Ovarium* post anthesin paullo auctum hirsutum, lobis truncatis supra squamellis prominentibus quasi crenulatum. *Nuculæ* maturæ adhuc ignotæ.

This very distinct species, said to be very ornamental, was placed in *Achyrospermum*, from its inflorescence, and from the minutely scaly apex of the young nucules, although it is not known what form they assume when ripe. The flowers are very much larger than those of any other known species of *Achyrospermum*.—G. Bentham.

Fig. 1. Flower. 2. Pistil.

Plate 1250.

HETERACHNE GULLIVERI, *Benth.*

Gramineæ, Tribe Festucaceæ.

Heterachne, *Benth.* *Spiculæ* planæ, flore unico hermaphrodito fertili, glumis supra florem plurimis vacuis v. paleam parvam foventibus, rhachi sub flore articulato supra florem flexuoso continuo. *Gluma* exaristatæ, carinatæ, 2 exteriores vacuæ persistentes, florida superioresque cum fructu deciduæ, carina alata, lateribus 1-nervibus. *Palea* glumæ subæqualis, dorso 2-alata. *Styli* breves, distincti. *Caryopsis* palea glumaque inclusa, libera.

H. Gulliveri, *Benth. Fl. Austral.* vii. ined., spiculis suborbiculatis fasciculato-capitatis, fasciculis in spicam interruptam pedunculatam dispositis.

Hab. Between Norman and Gilbert Rivers, Carpentaria, North Australia, *Gulliver*.

Herba gracilis, erecta, subsemipedalis, glabra. *Folia* angusta. *Spicularum fasciculi* subglobosi, 2–3 lin. diametro, in spicam terminalem pedunculatam dispositi, sessiles, inferiores distantes, superiores sessiles. *Spiculæ* sessiles, orbiculatæ, vix lineam diametro. *Rhachis* fasciculorum hispidula, spicæ glabra. *Glumæ* exteriores vacuæ florida

breviores, extima uninervis, secunda trinervis, carina subalata; florida superioresque 3-nerves carina alata. *Palea* gluma paullo brevior, dorso alis 2 latis crassiusculis apice ciliolatis aucta. *Rhachis* spiculæ supra florem insigniter flexuosa.

The genus has been established for this species and the *Poa abortiva*, R. Br. (*H. Brownii*, Benth.), which is a stouter plant with dense sessile heads of spikelets and more numerous empty glumes. It is allied to *Ectrosia* in the numerous empty glumes above the flower, to *Elytrophora* in the broadly winged palea.—G. Bentham.

Fig. 1. Spikelet. 2. Flowering glume. 3. Palea. 4. Diagram of the flower, consisting of the glume and its dorsal wing, the palea and its two wings, two lodicules, three stamens, and ovary.

Plate 1251.

TORENIA SCHWEINFURTHII, *Oliv.*

Scrophulariaceæ.

T. Schweinfurthii, *Oliver, sp. nova*, caule elongato erecto vix aut parum ramoso quadrangulo glabro, foliis oppositis parvis trinerviis inferioribus approximatis ellipticis obtusis superioribus distantibus gradatim minoribus ovali-lanceolatis acutis, inflorescentia terminali subcapitata, bracteis subulatis flore brevioribus, pedicellis brevissimis, calyce 5-angulato v. 5-costato breviter et acute 5-fido, corollæ tubo calyce longiore, limbi labio superiore integro rotundato, labio inferiore 3-partito lobo centrali obovato lobis lateralibus paullo longiore, palato pilis paucis claviformibus ornato, staminibus anticis basi appendice brevi capitata auctis.

Hab. Bongo land (No. 4009), *Dr. Schweinfurth!* Nupe, Nigritania, *Barter!*

Caulis $1\frac{1}{3}$–2 ft. altus superne pauce foliosus. *Folia* longiora $\frac{3}{4}$–1 poll. longa.—D. Oliver.

Fig. 1. Calyx. 2. Flower. 3. One of the anterior longer stamens with basal appendix. 4. Capsule enclosed in calyx, and stigma.

Plate 1252.

MEDUSAGYNE OPPOSITIFOLIA, *Baker.*

Ternstrœmiaceæ.

M. oppositifolia, *Baker, Flora Maur. and Seychelles*, 17. Frutex ramosus glaber, foliis oppositis breviter petiolatis coriaceis ellipticis v. oblongo-ellipticis obscure et distanter crenato-dentatis apice obtusis retusisve, paniculis terminalibus laxis foliis vix longioribus, pedicellis flore longioribus gracilibus basi articulatis, sepalis rotundatis coriaceis, petalis obovatis obtusis calyce 2–3plo longioribus, stylis 17–24, ovario subæquilongis.

Hab. Exposed places in Mahé, Seychelles; 1,800 ft. above the sea, *Mr. J. Horne!*

Ramuli teretes nodosi. *Folia* $1\frac{1}{2}$–2 poll. longa, basi rotundata v. subcuneata, utrinque (in sicco) plus minus reticulatis; petiolus 1–2 lin. longus. *Pedicelli* $\frac{1}{2}$–$\frac{3}{4}$ poll. longi rigidiusculi. *Flores* $\frac{1}{3}$ poll. lati.

Of this singular plant we only possess the flowering specimens collected in Mahé by Mr. Horne, described by Mr. Baker in his Flora. The fruit is unknown.—D. Oliver.

Fig. 1. Expanded flower. 2. Before expansion. 3. Longitudinal section of ovary. The ovules are geminate, inserted about the middle of the cell, one ascending, the other pendulous.

Plate 1253.

VITIS SARCOCEPHALA, *Schweinf.*

Ampelideæ.

V. sarcocephala, *Schweinfurth MSS. in Herb.*—Scandens; ramis striatis parce lanatis deinde glabrescentibus, foliis digitatim 5–7-foliolatis, foliolis ovali- v. oblanceolato-oblongis acuminatis dentato-serratis basi in petiolulum angustatis, supra glabratis subtus pallide- v. ferrugineo-tomentosis v. adpresse pilosis, floribus 5-meris dense capitatis brevissime pedicellatis, pedicellis compressis lanatis perianthiis occultatis; capitulis pedunculatis solitariis subglobosis; calyce lobato lobis deltoideo-rotundatis tenuibus lanatis, petalis ovato-ellipticis recurvis, ovario truncato longitudinaliter sulcato glabro, stigmate subsessili, baccis ellipsoideis, testa ossea faciebus longitudinaliter exsculptis.

Hab. Tropical Africa, Djur-land (2042 : 2370), *Dr. Schweinfurth!*

Foliola 3–6 poll. longa, 1–2 poll. lata; petiolus 1–4 poll. longus; petioluli $\frac{1}{4}$–$\frac{1}{2}$ poll. longi. *Pedunculi* cirrhiferi 2–5 poll. longi. *Capitula* $\frac{3}{4}$–1 poll. diametro. *Baccæ* $\frac{1}{2}$ poll. longæ 1–2-spermæ. *Semina* compressa, facie interiora profunde bisulcata.—D. Oliver.

Fig. 1. Flower. 2. Same after removal of petals and stamens. 3. Form of bony testa in tranverse section, the upper bisulcate face being toward the axis.

Plate 1254.

BRACHYBOTRYS PARIDIFORMIS, *Maxim.*

Boragineæ.

Brachybotrys, *Maximowicz MSS.* — Calyx 5- (v. 6-) partitus, laciniis lanceolatis v. ovato-lanceolatis, in fructu conniventibus. Corolla rotata profunde 5- (v. 6-) fida, laciniis oblongo-ellipticis obtusis venulosis basi squamula brevi rotundata instructis. Stamina 5 tubo inserta, filamentis linearibus, antheris oblongis exsertis filamento æquilongis. Ovarium lobis 4 distinctis brevibus obtusis; stylus filiformis exsertus indivisus persistens, stigmate parvo. Nuculæ 4 tetraquetræ faciebus subæquimagnis lucidis lævibus subplanis pilosiusculis, basali horizontali, areola punctiformi ad angulum basalem internum insertæ. Discus glandulosus circa basin nucularum obsoletus.

B. paridiformis, *Maxim.* (*Lithospermearum* genus novum, Maxim. Diag. Pl. Nov. xi. p. 543).

Hab. Southern Mandshuria (in fruit August 1860) *Maximowicz!* Chienshan, North China, and Kwandien Mountains (April and June, in flower), *Mr. John Ross!*

Herba 1½–2-pedalis, caule rhizomate stolonifero repente erecta, e basi foliis membranaceis linearibus, inferioribus amplexicaulibus, instructo. *Folia* 5–7 patentia subverticillata summo cauli inserta, 2–7 poll. longa, elliptica v. obovato-elliptica, cuspidato-acuminata, basi in petiolum brevissimum attenuata, penninervia, superne scabriuscula subtus adpresse strigosa. *Cyma* terminalis nuda pedunculata (demum subfoliis occultata pendula), pedunculus 1½–2 poll. longus. *Flores* ½ poll. diam. *Calyx* fructifer 4 lin. longus. *Nuculæ* nigrescentes adspectu nucularum *Eritrichii* et *Endogonie*, sed fere bilineales.

Specimens of this interesting plant, received last year from Mr. John Ross, were identified by M. Maximowicz with the undescribed Mandschurian genus collected by him only in fruit and referred to, as cited above, in his 'Diagnoses.' M. Maximowicz has most courteously supplied us with a specimen of the fruit of his plant, together with drawings and a detailed description of it, which I have made use of in drawing up the above description.—D. Oliver.

Fig. 1. Flower. 2. Two lobes of the corolla with their basal squamæ and stamens. 3. Fruit with the calyx-segments turned back. 4. Nuts, anterior and pósterior views. 5. Base of style with scars of the removed nuts.

Plate 1255.

EXOCHORDA SERRATIFOLIA, *S. Moore.*

Rosaceæ, Tribe Spiræeæ.

E. serratifolia, *Moore sp. nov.*, foliis manifeste petiolatis ovatis vel cuneato-lanceolatis acutis serratis basin versus integris subtus pubescentibus, calycis limbi lobis rotundato-ovatis obscure crenulatis, floribus subsessilibus, petalis obcordato-spathulatis quam in *E. grandiflora*, *Ldl.* longioribus et comparate angustioribus.

Hab. In the N. Chinese Province of Chienshan, *J. Ross.*

Caulis aliquot pruinosus. *Folia* ad $2\frac{1}{4}$ unc. long. et 1 unc. lat.; petioli ad $\frac{1}{2}$ unc. long., pubescentes. *Petala* $\frac{3}{4}$ unc. long.

Abundantly distinct from *E. grandiflora, Ldl.* The genus has hitherto been monotypic, Baillon having referred his *E.? Davidiana* to *Nuttallia.*—S. Moore.

Fig. 1. Ovary with the back of a carpel removed to expose the ovules.

Plate 1256.

HANNOA SCHWEINFURTHII, *Oliv.*

Simarubeæ.

H. Schweinfurthii, *Oliver, sp. nov.*—Frutex glaberrimus; folia 3–7-foliolata, foliolis coriaceis anguste oblongo-oblanceolatis obtusis v. subacutis basi attenuatis, pedunculis folio brevioribus 1–2-paucifloris erectis sæpe elongatis, floribus pedicellatis flavidis, calyce sæpius inæqualiter 3–4-fido lobis integris v. 1–2-dentatis, petalis 6–9 calyce 2–4-plo longioribus oblongis apice recurvis, staminibus 12–14, carpellis 5 (–6), fructiferis 1–2 drupaceis ellipsoideis.

Hab. Central Africa, Niam-niam Land (2893 : 2898). *Dr. Schweinfurth!*

Frutex parvus 2–3 pedalis, ramulis hornotinis teretibus longitudinaliter striatis e caudice brevi lignoso crasso fastigiatim erectis. *Folia* $\frac{1}{2}$–1 ped. longa, imparipinnata, foliolis elongatis, lateralibus 1–3-jugis,

3–6 poll. longis $\frac{2}{3}$–$1\frac{1}{2}$ poll. latis, basi sæpius longe angustatis. *Pedunculi* axillares v. terminales erecti 1–6 poll. longi, pedicelli $\frac{1}{2}$–1 poll. longi. *Fructus* $\frac{2}{3}$–$\frac{3}{4}$ long. longus, pericarpio osseo lævi.—D. Oliver.

Fig. 1. Flower, enlarged. 2. Stamens. 3. Pistil. 4. Fruit-carpel.

Plate 1257.

SYNCOLOSTEMON DENSIFLORUS, *Benth.*

Labiatæ, Tribe Ocimoideæ.

S. densiflorus, *Benth. in E. Mey. Comm. Pl. Afr.* 231 *and in DC. Prod.* xii. 54, foliis ovatis acutis integerrimis v. rarius subdentatis, thyrso denuo spiciformi, calycibus rectis viscoso-villosis, corollæ tubo calyce plus duplo longiore.

Hab. South Africa, Natal district, *Drege*, *Krauss*, *n.* 96, *Sutherland*, *Mrs. Hutton*, from the coast up to 1,000 ft. elevation.

Frutex erectus 2-pedalis v. altior, ramis strictis molliter pubescentibus. *Folia* opposita in axillis sæpius fasciculata, breviter petiolata, 3–4 lin. v. majora fere semipollicem longa, acuta, coriacea, cano-puberula v. demum glabrata, costa prominula venis obscuris. *Verticillastri* e cymis oppositis dense spiciformibus in thyrsum densum spiciformem terminalem 3–5-pollicarem conferti v. inferiores parum dissiti. *Folia floralia* caulinis conformia nisi minora, superiora parva bracteæformia. *Calyx* ad 3 lin. longus, lobis 4 inferioribus longiuscule setaceis, summo latiore breviore leviter decurrente. *Corollæ* tubus rectus, superne ampliatus, 7–8 lin. longus, labiis brevibus latis patentibus, superiore breviter latequæ 4-dentato, inferiore integerrimo concavo. *Stamina* exserta, declinata, filamenta inferiora fere ad apicem connata antheris brevissime stipitatis, superiora breviora, libera. *Antherarum* loculi divaricati confluentes. *Discus hypogynus* lobatus, postice ovaria superans. *Stylus* exsertus lobis stigmatosis brevibus subulatis.

Fig. 1. Flower. 2. Disk and ovary.

A grave error has unfortunately crept into the published generic character of *Syncolostemon*, the union of the two lower filaments upon which the name was founded being ignored. The descriptions of Drege's Labiatæ were drawn up by myself and sent to E. Meyer who revised them and published them in his Commentaria, and wherever no error had been detected were copied into the Prodromus. Whether the error now discovered originated with me, or was the result of verbal alterations in copying out here or in Germany, it is impossible now to ascertain.—G. Bentham.

Plate 1258.

SAXIFRAGA ROSSII, *Oliv.*

Saxifrageæ.

S. (§ *Isomeria*), **Rossii**, *Oliver*, *sp. nov.*, acaulis, foliis radicalibus, lamina rotundata palminervia, glabra v. glabrescentia, basi cordata sinu rotundato, plus minus profunde 5–7–9-fida, laciniis ovatis v. ovato-lanceolatis acutis inæqualiter serratis, scapo folia verosimiliter superante, superne pilosulo v. puberulo, inflorescentia paniculata multiflora pubescente, pedicellis flore subæquilongis, calyce campanulato sæpius 6–fido, laciniis oblongo-lanceolatis obtusiusculis, petalis oblongis calyce brevioribus, ovario semi-infero.

Hab. North China; hills south of the Corean Gate and elsewhere 'on almost inaccessible and bare rocks, called by some Mandschurian Ivy.' *Mr. J. Ross!*

Rhizoma repens crassiusculum squamiferum. *Folia* 3–5 poll. longa atque lata; petiolus 3–4 poll. longa. *Flores* $\frac{1}{4}$–$\frac{1}{3}$ poll. diam., sæpius 6–meri. *Stamina* 6 petalis alterna et eisdem breviora.

Judging from our specimens the leaves probably attain a larger size than noted above.—D. Oliver.

Fig. 1. Flower. 2. Same in vertical section, enlarged.

Plate 1259.

MISANTECA ANACARDIOIDES, *Benth.*

Laurineæ, Tribe Perseaceæ.

Misanteca, *Cham. et Schl.* (Symphysodaphne, *A. Rich.*), Char. *emend.* *Flores* hermaphroditi. *Perianthii* tubus carnosus ovoideus v. obovoideus; limbi segmenta 6, brevissima. *Stamina* perfecta 3, ordinis tertii, in columnam carnosam circa pistillum connata, e perianthio breviter exserta, singula apice extrorsum 2-locellata, additis interdum locellis 1–2 parvis inferioribus cassis; staminodia ordinis primi et secundi brevia v. obsoleta, ordinis quarti desunt. *Ovarium* in stylum brevem contractum, columna staminea inclusum. *Fructus* (ubi notus) perianthii tubo aucto indurato cupulato truncato insidens.—Arbores fru-

ticesve Americanæ. *Folia* sparsa, coriacea, pennivenia. *Paniculæ* ad basin innovationum pedunculatæ, cymulis capitatis multifloris v. laxis paucifloris.

M. anacardioides, *Benth.*, foliis obovato-oblongis obtusissimis basi in petiolum contractis glabris, paniculæ cymulis laxe paucifloris.—*Acrodiclidium anacardiodes*, R. Spruce Pl. Exs. n. 2961; Meissn. in DC. Prod. xv. i. 86.

Hab. North Brasil, in low woods near San Carlos del Rio Negro, *Spruce, n.* 2961.

Arbuscula v. sæpius frutex 10-pedalis, facie *Anacardii occidentalis* ramulis novellis puberulis mox glabratis. Folia apices versus ramulorum conferta ex obovato oblonga, 3–6-pollicaria, apice rotundata, basi in petiolum brevem longiuscule angustata, coriacea, glaberrima, pennivenia et tenuiter reticulato-venulosa. Paniculæ ad basin innovationum non stricte axillares, foliis breviores, parce ramosæ, tenues, puberulæ. Cymulæ paucæ, breviter pedunculatæ, floribus in cymula 3–6 pedicellatis. Bracteæ minimæ, caducissimæ. Perianthium obovoideo-subglobosum vix $\frac{3}{4}$ lin. diametro, lobis brevissimis latis obtusis. Staminodia ordinis primi et secundi rarius adsunt parva. Antherarum locelli inferiores ad maculas glabras reducti.

Fig. 1. Perianth showing the protruding end of the staminal column. 2. Staminal column. 3. Ovary.

Owing to the general neglect of the characters derived from the stamens of Lauricæ and the reliance for generic distinction upon the fruit alone, the four species which we would unite under Chamisso's *Misanteca*, connected by a very remarkable and exceptional staminal structure, are to be found under four different genera in the Prodromus, the fru t being unknown in three of them and therefore only guessed at in determining on their generic names; these four species are—

1. *M. capitata*, Cham. et Schl., Meissn. in DC. Prod. xv. 1, 96, foliis ovali-ellipticis breviter acuminatis petiolatis glabris v. subtus puberulis, panicule cymulis dense multifloris capitatis ad apicem pedunculi subsessilibus.—Mexico.

2. *M. cubensis*, Benth., foliis ovali-ellipticis acuminatis petiolatis glabris v. subtus puberulis, paniculæ cymulis plurifloris laxiusculis pedicellatis.—*Symphysodaphne Cubensis*, A. Rich. Fl. Cub. 111, 190, t. 67; Cuba, *Linden, n.* 1993.

This species has the foliage of *M. capitata* with the inflorescence of *M. anacardioides*. It is referred both by Grisebach and by Meissner to *Acrodiclidium jamaicense*, as a broad-leaved variety, and is indeed very nearly allied to that species which seems to connect the two genera, as the thick stamens are more or less united at the base though free at the summit. It has, however, the large glands at the base of the stamens of *Acrodiclidium*, although no staminodia as in most *Misantecæ*.

3. *M. anacardioides*, Benth., uti supra.

4. *M. crassiramea*, Benth., ramis crassis suberoso-rugosis, foliis sessilibus elliptico-oblongis obtusis supra glabris subtus villosis, paniculæ cymulis plurifloris laxiusculis. —*Oreodaphne? crassiramea*, Meissn. in DC. Prod. xv. 1, 117; Brasil, near the town of Goyaz, *Burchell, n.* 6758, and probably the same locality, *Pohl.*—G. Bentham.

Plate 1260.

MYRISTICA SAGOTIANA, *Benth.*

Myristiceæ.

M. (Gymnacranthera ?) **Sagotiana**, *Benth. sp. n.*, foliis nitidulis præter costam elevatam tenuissime v. obscure penniveniis, paniculis masculis axillaribus, floribus secus ramulos parvis pedicellatis fasciculatis, perianthio globoso-campanulato alte 3–fido, antheris 6–8 stipiti brevissimo adnatis erectis, apice muticis brevissime liberis.

Hab. Acarouary, French Guiana, *Sagot, n.* 1195.

Rami divaricati. *Folia* oblongo-lanceolata, 3–5 poll. longa, $1\frac{1}{2}$–2 poll. lata, breviter et obtuse acuminata, petiolo 3–5 lin. longo fulta. *Paniculæ* folio multo breviores, ima basi in ramulos 2–3 divaricatos simplices v. vix ramosos divisæ. *Flores* secus ramulos ad nodos dissitos elevatos numerosi, pedicellis ad 1 lin. longis. *Perianthium* vix semilineam diametro fere ad basin divisum, segmentis ovatis. *Stamina* in massam subsessilem fere globosam connata, antheris fere ad apicem circa stipitem brevissimum adnatis. *Flores fœminei* ignoti.

The arrangement of the anthers distinguishes this from all the published species, but is very near that of the old world section *Gymnacranthera* and the American section *Compsoneura*, which it is proposed to unite under the former name.—G. Bentham.

Fig. 1. Male perianth. 2. The same open. 3. Mass of stamens from the open flower. 4. The same from a young bud.

Plate 1261.

MYRISTICA MICROCEPHALA, *Benth.*

Myristiceæ.

M. (Irya) **microcephala**, *Benth. sp. n.*, foliis subtus crebre penniveniis, paniculis masculis axillaribus ramosis, capitulis numerosis parvis globosis, perianthio 3–fido subsessili, antheris 3–4 brevibus ad apicem columnæ elongatæ exsertæ vix clavatæ adnatis.

Hab. Island of Fernando Po, *Mann, n.* 572.

Arbor 60–80-pedalis. *Folia* oblonga, acuminata, basi subæqualiter cordata, sæpe pedalia, venis primariis subtus elevàtis transversis parallelis ad utrumque latus costæ in speciminibus nostris 30–50, supra depressis parum conspicuis. *Paniculæ* masculæ axillares, ramosæ, 2–4-pollicares. *Capitula* pisiformia vix $1\frac{1}{2}$ lin. diametro, apices versus ramulorum conferta, numerosa. *Flores* in capitulo numerosi, subsessiles. Perianthium $\frac{1}{4}$ lin. diametro. *Columna* staminea primum inclusa, in flore evoluto perianthio conspicue longicr. *Flores fœminei* ignoti.

This and the species figured in the following plate are the first nutmegs that have been found in tropical Africa, and both are due to the exertions of Mr. Mann. Their nearest ally is certainly the *M. Horsfieldii* of the Malayan Archipelago, which was raised to a distinct genus by Willdenow, reduced to a section of *Myristica* by Alph. De Candolle, but which might well be included in one section with the *M. Irya*, Gærtn. G. Bentham.

Fig. 1. Perianth. 2. The same open. 3. Stamens seen from above.

Plate 1262.

MYRISTICA MANNII, *Benth.*

Myristiceæ.

M. (Irya) **Mannii**, *Benth. sp. n.*, foliis subtus elevato-penniveniis, paniculis masculis axillaribus, capitulis paucis globosis multifloris, perianthio 3-fido in pedicellum brevem contracto, antheris 3–6 brevibus ad apicem columnæ elongatæ clavatæ adnatis.

Hab. Old Calabar and Cameroon rivers, *Mann, n.* 2290 and 752.

Arbor 40–50-pedalis. *Folia* obovali v. anguste oblonga, acute acuminata basin versus parum inæquilatera, 6–10 poll. longa, 2–3 poll. lata, coriacea, supra nitidula subtus scabriuscula et glabra, venis primariis 10–20 subtus elevatis supra parum conspicuis, basi obliqua, petiolo 2–3 lin. longo. *Paniculæ masculæ* ad axillas breves, ferrugineo-tomentellæ, e ramulis paucis apice monocephalis compositæ. *Capitula* globosa, 6–9 lin. diametro, floribus dense confertis etsi breviter pedicellatis. *Perianthii* limbus 3-partitus, $1\frac{1}{2}$ lin. diametro. *Columna*

staminea tenuis, perianthio conspicue brevior, apice leviter incrassata antheris sæpius 3. *Flores fœminei* ignoti.

With the globose inflorescence of *M. Horsfieldii* and *M. microcephala*, this species is at once distinguished by the very much larger and fewer flower-heads.—G. Bentham.

Fig. 1. Male perianth. 2. The same open. 3. Section of the same, showing the staminal column and the thick texture of the perianth.

Plate 1263.

PALMERIA SCANDENS, *F. Muell.*

Monimiaceæ, Tribe Monimieæ.

P. scandens, *F. Muell. Fragm. Phyt. Austral.* iv. 152 *and* v. 2; *Benth. Fl. Austral.* v. 291, staminibus ad 20, disco centrali villoso nudo.

Hab. Rockingham Bay, Queensland, *Dallachy*.

Frutex alte scandens, ramulis nunc cano-tomentellis nunc pubescenti-lanatis. *Folia* opposita, brevissime petiolata, ovata v. late elliptica, breviter acuminata, 3–5 poll. longa, utrinque cano-tomentella v. supra glabrata. *Flores* dioici in paniculas axillares laxe racemiformes foliis breviores dispositi, inflorescentia mascula subramosa, fœminea breviore simpliciore; pedicelli secus rhachin fasciculati perianthеis vix longiores. *Fl.* ♂. *Perianthium* hemisphæricum, vertice planum, lobis 4–5 supra stamina conniventibus et in apices lineares intra antheras reflexas productis. *Discus* centralis seu receptaculum cavum villosulum centro nudum, in peripherio antheras 16–20 subsessiles pluriseriatas ferens; antheræ tamen diu perianthio clauso occultæ. *Fl.* ♀ *Perianthium* paullo minus, intus dense villosum, carpella plurima sessilia includens. *Perianthium fructiferum* auctum carnosulum irregulariter subglobosum, carpella drupacea subglobosa sessilia includens, exocarpio tenui endocarpio osseo. *Semen* pendulum, testa membranacea, hilo longiusculo. *Embryo* perfectus adhuc ignotus.—G. Bentham.

Fig. 1. Male perianth when first full grown. 2. The same as it at length partially opens showing the stamens. 3. Fruiting perianth. 4. Section of the same showing the hollow glabrous scars left by the drupe. 5. Anther.

Plate 1264.

CHYMOCOCCA EMPETROIDES, *Meissn.*

THYMELÆACEÆ, Tribe EUTHYMELEÆ.

C. empetroides, *Meissn. in DC. Prod.* xiv. 665, *single species.*

HAB. S. Africa, about Simon's and Table Bays, *Ecklon, Harvey, Wright.*

Fruticulus laxe ramosissimus, simillimus *Passerinæ filiformi* et *P. rigidæ*, ramulis cano-tomentosis. *Folia* opposita, laxiuscula, triquetro-linearia, obtusa, 1–1½ lin. longa, internodio subæqualia v. longiora, crassiuscula, lævia v. rugulosa, basi paullo latiora, floralia superiora sæpe latiora. *Flores* axillares, solitarii, sessiles, secus ramulos subdistantes v. spicam comosam sparsifloram formantes, folio florali vix duplo longiores. *Perianthium* urceolatum, tubo supra ovarium constricto demum subgloboso, limbi lobi 4, patentes, tubo vix breviores, fauce intus nuda. *Stamina* 8, fauci affixa, exserta, longiora tamen vix lobos superantia. *Discus* hypogynus 0. *Ovarium* subsessile, glabrum, stylus filiformis, stigmate depresso-globoso. *Fructus* baccatus, perianthii tubo parum aucto inclusus v. perianthio demum deciduo denudatus, longitudinaliter striatus, pericarpio crassiusculo carnoso. *Semen* albuminosum, testa crassiuscula demum crustacea.

Generically separated by Meissner from the true *Passerinas* solely on account of the baccate not nucamentaceous fruit.—G. BENTHAM.

Fig. 1. Perianth with exserted stamens. 2. Stamen. 3. Pistil, the ovary cut longitudinally showing the ovule.

Plate 1265.

GOODALLIA GUIANENSIS, *Benth.*

THYMELÆACEÆ, Tribe EUTHYMELEÆ.

G. guianensis, *Benth. in Hook. Lond. Journ.* iv. 633. *single species.*

HAB. British Guiana, *Schomburgk, n.* 142, *Appun.*

Frutex arborescens, divaricato-ramosissimus, præter inflorescentiam glaber v. ramuli novelli tenuiter sericeo-pilosi, mox glabri, puncticu-

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lati. *Folia* alterna, breviter petiolata, late ovata obovata v. fere orbiculata, obtusissima v. retusa, integerrima, basi rotundata v. cuneata pleraque pollicaria, pennivenia et transverse v. oblique reticulato-venulosa, in ramulis vegetioribus rarius angusta et multo minora. *Spicæ* terminales, paucifloræ, fere in capitulum sessilem contractæ. *Flores* dioici, brevissime pedicellati, masculi $2\frac{1}{2}$ lin. longi, fœminei majores. *Perianthium* utriusque sexus sericeo-tomentosum, fere ad medium 5-fidum, lobis obtusis in flore fœmineo angustioribus quam in masculo, tubo præsertim floris masculi intus sub fauce villoso. *Squamæ* 10, lineares, tubo prope basin affixæ eique plus minus adnatæ. *Stamina* in flore masculo 10, fauci affixa, longiora lobis opposita iis fere dimidio breviora, rudimento ovarii nullo. *Staminodia* in flore fœmineo 0. *Ovarium* sessile, dense pilosum. *Stylus* demum exsertus, stigmate capitato penicillato. *Fructus* perianthio aucto persistente inclusus, pericarpio vix carnoso. *Seminis* testa crustacea, albumen parcum v. 0.

The peculiar position of the scales of the perianth at the base of the tube distinguishes this plant from all other *Thymelæaceæ* except *Funifera*, which, with a very different habit and inflorescence, has 4-merous flowers and other minor distinctive characters.—G. Bentham.

Fig. 1. Female perianth. 2. Section of the same. 3. Pistil. 4. Section of the male perianth showing the stamens. 5. Stamen.

Plate 1266.

AGASTACHYS ODORATA, *R. Br.*

Proteaceæ, Tribe Persoonieæ.

A. odorata, *R. Br. in Trans. Linn. Soc.* x. 158; *Benth. Fl. Austral.* v. 379, *single species.*

Hab. South and west coasts of Tasmania.

Frutex dumosus, 5–9-pedalis, undique glaber. *Folia* in ramulis erectis conferta, alterna, oblongo-linearia, obtusa, brevissime petiolata, $1\frac{1}{2}$–3-pollicaria, crasso-coriacea, nitidula, præter costam avenia, siccitate sæpe nigricantia. *Spicæ* numerosæ, ad axillas superiores solitariæ, a basi floridæ, folia subduplo superantes, paniculam terminalem foliatam formantes. *Flores* numerosi, sub bracteis brevibus solitarii, sessiles, suaveolentes, albi. *Perianthium* 3–$3\frac{1}{2}$ lin. longum, segmentis linearibus mox solutis per anthesin recurvis. *Stamina* infra medium segmenti affixa, filamentis anthera lineari brevioribus. *Ovarium* 3-angulare, in

stylum brevem contractum, stigmate oblongo laterali. *Fructus* (adhuc immaturus) 3-queter, angulis 2 lateralibus in alam crassiusculam expansis, tertio antico minus prominente. *Ovulum* sub apice lateraliter affixum, pendulum.

Fig. 1. Flower in the axil of a bud. 2. Flower of which three of the four segments are removed showing the pistil, also a transverse section of the young fruit. 3. Pistil, vertical section showing the ovule.

The ripe fruit has not been observed, but it is probably indehiscent and not much altered from the enlarged ovaries described.—G. Bentham.

Plates 1267–1268.

MANNIOPHYTON AFRICANUM, *Muell. Arg.*

Euphorbiaceæ.

M. africanum, *Mueller (Argov.) in DC. Prod.* xv. pt. 2, 720, foliis late ovatis cuspidatis integris vel palmatim 3–5-fidis lobis obovato-oblongis vel exterioribus oblique ovato-oblongis breviter acuminatis, supra nervis exceptis demum glabratis, subtus præcipue in nervis hirsutis, paniculis axillaribus racemiformibus foliis superantibus plus minus hirsutis, corolla fl. ♂ campanulata stamina subæquante ore undulato.

Hab. Prince's Island and Old Calabar, W. Tropical Africa, *G. Mann!* Monbuttu land (No. 3191, 3581). *Dr. Schweinfurth!*

Folia 4–7 poll. longa 4–10 poll. lata; petioli 3–6 poll. longi. *Paniculæ* pedunculo incluso (♂) $\frac{1}{3}$–1 ped. longæ; bracteæ parvæ lineares. *Pedicelli* (fl. ♂) breves calyce vix longiores.

I think the Angolan species distinguished by Dr. Mueller (l. c.) doubtfully distinct from *M. africanum*.—D. Oliver.

Plate 1267.—Fig. 1. Reduced outline of palmatifid leaf. 2. Staminate flower. 3. Stamens, after removal of calyx and corolla.

Plate 1268.—Fig. 1. Pistillate flower, after the fall of the petals.

Plate 1269.

ENTEROSPERMUM LITTORALE, *Hiern.*

Rubiaceæ, Tribe Gardenieæ.

E. littorale, *Hiern. in Oliv. Fl. Trop. Africa*, iii. 93; foliis obovato-ellipticis v. oblanceolatis plus minus obtusis basi cuneatis coriaceis glabris lucidis, venis secundariis sæpius utrinque 4–5, stipulis coriaceis erectis ovato-oblongis deciduis, cymis terminalibus multifloris corymbiformis folia haud superantibus, pedunculis trichotomis compressis, calycis limbo obtuse dentato, corollæ tubo calyce 3–5plo longiore, fructu pisiformi endocarpio crustaceo, albumine profunde ruminato.

Hab. Prov. of Zanzibar, *Dr. Kirk! Hildebrandt!*

Frutex 6–12 ped. ramosus, glaber; ramulis obtuse 4-gonis. *Folia* 2–3½ poll. longa, 1–1¾ poll. lata; petiolis ¼–½ poll. *Corolla* lobis tubo brevioribus oblongis v. ellipticis obtusis. *Antheræ* subsessiles exsertæ. *Stylus* longiuscule exsertus, indivisus, apicem versus leviter clavatus. *Fructus* ⅙–¼ poll. diam.—D. Oliver.

Fig. 1. Flower. 2. Vertical section of ovary, showing geminate ovules. 3. Seed. 4. Same in section showing embryo and ruminated albumen. 5. Embryo yet more enlarged.

Plate 1270.

LEPISTEMON AFRICANUM, *Oliv.*

Convolvulaceæ, Tribe Convolvuleæ.

L. africanum, *Oliver, sp. nov.*, caule hirto, foliis cordiformis repando- vel dentato-lobatis pilis brevibus subappressis hirtis, cymis umbelliformibus sessilibus v. breviter pedunculatis 3-∞-floris, pedicellis flore sæpe æquilongis, sepalis ovato-ellipticis acutiusculis dorso pilis longiusculis laxis hirsutis, squamis corollæ fornicatis concavis ovato-lanceolatis, disco continuo ovario fere æquilongo, capsulis tarde dehiscentibus ovoideis basi setosis apice obtusis, seminibus subglobosis, testa minute reticulata.

Hab. Zambesi-land, *Dr. Kirk!* Djur-land (No. 1430). *Dr. Schweinfurth!*

Folia 2–4 poll. longa et lata, sæpius acuta, dentibus acutis obtusisve sæpe deltoideis; petiolus ad 3-poll. longus. *Flores* petiolo breviores; pedunculo communi brevissimo, sæpe ramuloso. *Sepala* ovato-elliptica concava, exteriora acuta, dorso laxe hirsuta, sub fructu persistentia tum plus minus recurva. *Corolla* tubo calyce 2–3-plo longiore, limbo 5-lobato, lobis late ovato-deltoideis. *Fructus* $\frac{1}{2}$-poll. diam.—D. Oliver.

Fig. 1. Flower. 2. Stamen and anteposed scale, front and side view. 3. Pistil and surrounding disk. 4. Æstivation of corolla-lobes.

Plate 1271.

DIDYMÆA MEXICANA, *Hook. f.*

Rubiaceæ, Tribe Galieæ.

Didymæa, *Hook. f. in Benth. and Hook. f. Gen. Plant.* ii. 150.

D. mexicana, *Hook. f. l. c., species unica.*

Hab. Mexico; on the Peak of Orizaba, alt. 10,000 ft. *Bates, Linden* (No. 1403), *Galeotti* (No. 4405), *Bourgeau* (No. 98 and 3050), *F. Mueller* (No. 1519), *Liebmann* (Rub. No. 255).

Herba debilis; habitu *Rubiæ*, siccitate aterrima v. fusca, flaccida, implexo-ramosa, foliosa, sparse puberula, ramis ramulisque gracilibus fragilibus 4-gonis. *Folia* parva, $\frac{1}{2}$–1 poll. longa, patula v. recurva, opposita, subsessilia v. petiolata, lanceolata v. ovato- v. lineari-lanceolata, acuminata, rarius ovata et subacuta, enervia, basi rotundata acuta v. in petiolum angustata, marginibus sæpius recurvis; petiolo rarissime $\frac{1}{3}$ poll. longo; stipulæ utrinque geminæ, intra-petiolares, subulatæ, demum recurvæ, persistentes. *Flores* minuti, axillares, solitarii v. ramulis abbreviatis 1–3ni, pedicello brevissimo in fructu elongato. *Calycis tubus* turbinatus, lævis, cum pedicello non articulatus; limbus 0. *Corolla* infundibuliformi-campanulata v. subrotata, ad medium 4-fida, lobis triangulari-ovatis obtusiusculis valvatis. *Stamina* 4, inter lobos corollæ inserta, filamentis brevibus subulatis; antheræ dorso affixæ, oblongæ, obtusæ. *Discus* depressus, ovarium 2-loculare; stylus brevis crassus, ramis 2 brevibus divaricatis, apice et intus papillosis;

ovula in loculis solitaria, septo infra medium affixa, amphitropa. *Fructus* didymus, lobis globosis carnosulis, altero sæpe minore v. imperfecto. *Semina* . . . .—J. D. Hooker.

Fig. 1. Flower. 2. Corolla laid open. 3. Stamen. 4. Vertical section of ovary.

Plate 1272.

ACTINOSTROBUS PYRAMIDALIS, *Miq.*

A. pyramidalis, *Miq. Pl. Preiss.* i. 644; foliis interdum dimorphis inferioribus sæpe acicularibus elongatis superioribus vel omnibus parvis basi appressis, antherarum squamis rotundatis, strobilis globularibus. Parlat. in DC. Prod. xvi. ii. 444: Benth. Fl. Austr. vi. 239. *Callitris actinostrobus*, F. Muell. Burd. Exped. 19.

Hab. Western Australia, Swan River, *Preiss and others*; K. George's Sound, *Baxter*; Murchison River, *Oldfield.*

Folia acicularia ad $\frac{1}{2}$ unc. long., erecta vel patentia. *Amenta* mascula linearia, obtusa, ad $2\frac{1}{2}$ lin. long.; antherarum cellulæ 2–4. *Strobili* vix $\frac{5}{8}$ unc. long., interdum subsessiles.

In the single cone submitted to examination some of the carpels (ovules) came away with the scales and were invariably sterile, while the innermost ones, which remained on the axis, were all larger, triquetrous and fertile. Is this a constant peculiarity?—S. Moore.

Fig. 1. Portion of branch with male inflorescence. 2. Two-celled anther. 3, 4. Front and side view of seed with subtending scale. 5. Young female cone. 6. Outer ovuliferous scale of same (front view). 7. Inner ovuliferous scale.

Plate 1273.

ARISTOLOCHIA SOMALIENSIS, *Oliv.*

Aristolochiaceæ.

A. somaliensis, *Oliver, sp. nov.* Suffrutescens, repens v. scandens; foliis lineari-lanceolatis coriaceis apice acutis v. obtusiusculis mucronatis leviter recurvis subtus valide longitudinaliter nervosis basi utrinque auriculato-uncinatis margine scabriusculis subsessilibus, floribus axillaribus pedunculatis solitariis, bracteis ovatis ovario 3–4-plo longi-

oribus, perianthii utriculo inflato subgloboso, tubo curvulo superne leviter dilatato ore in limbo circulari abrupte ampliato facie pilosulo, ovario 6-loculari, columna stylina in lobos 6 deinde incurvos divisa.

Hab. Kismayo, South Somali land, *Dr Kirk!*

Folia $\frac{3}{4}$–$1\frac{1}{2}$ poll. longa, basin versus $\frac{1}{6}$–$\frac{1}{3}$ poll. lata. *Pedunculi* $\frac{1}{2}$–1 poll. longi. *Bracteæ* $\frac{2}{3}$–1 poll. longæ, $\frac{1}{2}$ poll. latæ. *Perianthium* $1\frac{1}{2}$–2 poll. longum, limbo circiter 1 poll. lato.—D. Oliver.

Fig. 1. Column with continuous marginal membrane surrounding the stigma decurved. 2. Same with the membrane recurved. 3. Six lobes of stigma from above, surrounded by the upturned marginal membrane.

Plate 1274.

ORTHOSIPHON LINEARIS, *Benth.*

Labiatæ, Tribe Ocimoideæ.

O. linearis, *Benth. sp. nov.*, ramis tenuibus ascendentibus v. erectis, foliis subsessilibus anguste linearibus, corollæ tubo calyce plus duplo longiore superne ampliato, filamentis anticis plus minus connatis.

Hab. South Africa, Malabele land, *C. G. Oates.*

Plantæ pars inferior deest, ramuli ascendentes suberecti fere filiformes, glabri v. pilis brevibus raris conspersi. *Folia* angustissime linearia, fere subulata, crassiuscula, supra concava, integerrima, pollice breviora, floralia minuta. *Verticillastri* in summo ramo pauci distantes, 3–6-flori. *Pedicelli* tenues calyce breviores. *Calyx* patens v. demum nutans, per anthesin tubulosus $1\frac{1}{2}$ lin. longus, post anthesin ampliatus ovoideus, 3 lin. longus, glaber, 10-nervis, dente postico lato obtuso breviter decurrente, inferioribus breviter setaceo-acuminatis. *Corollæ* tubus rectus, 3 lin. v. paullo longior, basi tenuis, superne postice in faucem ampliatus; limbi labia patentia, posticum breve latum late 4-dentatum, anticum longius ovatum integerrimum. *Stamina* longiuscule exserta, declinata; filamenta anticorum breviter v. ultra medium connata, postica libera. *Antheræ* parvæ, loculis divaricatis confluentibus. *Stylus* apice minute incrassatus.

Fig. 1. Flower. 2. Lower stamens, the upper portion.

With the essential characters of *Orthosiphon* this species differs from the rest of the genus in the very narrow foliage and in the union of the two lower filaments, showing in the latter respect an approach to the genus *Syncolostemon*.—G. Bentham.

Plate 1275.

CARDWELLIA SUBLIMIS, *F. Muell.*

Proteaceæ, Tribe Embothrieæ.

C. sublimis, *F. Muell. Fragm. Phyt. Austral.* v. 24; *Benth. Fl. Austral.* v. 538, *single species.*

Hab. Mountains about Rockingham Bay, Queensland, *Dallachy.*

Arbor 80–90-pedalis, ramulis novellis inflorescentiaque minute canotomentellis, foliis adultis glabris. *Folia* alterna pedalia et longiora, abrupte pinnata, foliolis 4–10 oppositis v. alternis longiuscule petiolulatis ovatis oblongisve obtusis coriaceis venosis supra viridibus subtus pallide glaucis fulvisve 3–8 poll. longis. *Racemi* ad apices ramorum paniculati, foliis longiores v. breviores. *Flores* hermaphroditi, secus rhachin racemorum per paria brevissime pedicellati. *Bracteæ* 0 v. caducissimæ. *Perianthium* obliquum, tubo semipollicari, latere inferiore hiante, apice attenuato sub limbo oblique subgloboso recurvo. *Antheræ* ovatæ, in laminis cavis sessiles. *Glandulæ* hypogynæ 4, globosæ. *Ovarium* breviter stipitatum ; stylus elongatus, apice dilatatus in discum obliquum medio stigmatosum. *Ovula* 12–16, sub apice lateraliter affixa, 2-seriatim deorsum imbricata. *Fructus* crassus, lignosus, demum folliculatim dehiscens, apertus 3 poll. diametro. *Semina* pauca, plana, oblonga, margine alæformi cincta, 3 poll. longa $\frac{3}{4}$ poll. lata.

Fig. 1. Flower. 2. Apex of style and stigma, front and side view. 3. Ovary and disk. 4. Ovary, longitudinal section. 5. Seed. 6. Embryo.

The genus, with the descending ovules and the perianth nearly of *Stenocarpus*, has a very different inflorescence and aspect and differs also in the hypogynous glands, the broad thick hard fruit, and in the shape of the seeds.—G. Bentham.

Plate 1276.

KICKXIA AFRICANA, *Benth.*

Apocynaceæ, Tribe Echitideæ.

K. africana, *Benth. sp. n.*, cymis densis multifloris, pedicellis brevibus, glandulis calycinis in squamellas subconnatis, antheris dorso non incrassatis.

Hab. West Tropical Africa, Bagroo river and Fernando Po, *Mann*, *n.* 817; Bonny, *Kalbreyer*.

Arbor 15–20-pedalis, cortice pallide maculato. *Folia* breviter petiolata, ovata v. oblonga, breviter et obtuse acuminata, basi rotundata v. angustata, coriacea, nitidula, pennivenia, venis primariis utrinque 8–15 parallelis fere ad marginem extensis, rete venularum inconspicua. *Cymæ* axillares, pedunculo 1–4 lin. longo fultæ, ramosissimæ, ramulis pedicellisque 1–2 lin. longis. *Calyx* vix 2 lin. longus, segmentis obtusis; glandulæ interiores ad basin calycis ∞, plus minus per paria v. plures connatæ. *Corollæ* tubus breviter exsertus; limbi laciniæ vix 4 lin. longæ, lineares, contortæ, in alabastro dextrorsum obtegentes, per anthesin patentes flavescentes. *Stamina* inclusa, filamentis brevissimis pilosis. *Discus* hypogynus in squamellas 5 latas truncatas crenatas partitus. *Fructus* folliculi 2, 4–6-pollicares, coriacei. *Semina* anguste fusiformia, subsemipollicaria, in folliculo reflexa, basi in aristam filiformem fere sesquipollicarem longissime retrorsum sordideque comosam, producta. *Albumen* haud copiosum. *Cotyledones* contortuplicatæ.

Fig. 1. Diagram of the æstivation of the corolla in bud. 2. Flower expanded. 3. Calyx-segment, inner surface, showing the glands at the base, which are, however, often more united than here shown. 4. Stamen, the lower compartments of the anther always without pollen. 5. Ovary and hypogynous disk. 6. Seed. 7. The same, transverse section.

The previously known Javanese *K. arborea* Bl. has the same foliage, but the flowers are fewer, 2½ inches long on pedicels of 1 to 1½ inch.—G. Bentham.

Plate 1277.

ECHIOCHILON LONGIFLORUM, *Benth.*

BORAGINEÆ, Tribe BORAGEÆ.

E. longiflorum, *Benth. sp. n.*, glabrum, glaucescens, corollæ tubo calyce 4–5-plo longiore.

HAB. Near Aden to the north-west, only a single plant seen, *Mr. Wykeham Perry.*

Herba dura, divaricato-ramosa, pedalis, ex omni parte in vivo glaucescens v. pallide cærulescens, glaberrima. *Folia* alterna, sessilia, oblongo-linearia v. sublanceolata, integerrima, crassa, subcarnosa, majora in specimine 6–8 lin. longa, superiora floralia gradatim in bracteas abeuntia. *Spicæ* terminales, 4–6-pollicares, tenues, rigidulæ, unilaterales, foliis floralibus seu bracteis nempe ad unum latus floribus ad alterum dejectis. *Flores* dissiti, vix stricte axillares, pedicello rigido calyce multo breviores. *Calyx* inæqualiter 4–5-partitus; lobo postico nano v. deficiente. *Corolla* cærulea, tubo 4–5 lin. longo basi tenuiter cylindraceo, ad faucem ampliato, limbi labium superius erecto-patens, latum, 2 lin. longum, inferius ad marginem recurvum reductum. *Antheræ* oblongo-lineares, inclusæ, filamentis brevissimis, infra medium tubi affixæ. *Stylus* filiformis, apice sub stigmate parvo 2-lobo annularis. *Nuculæ* fere pyramidatæ, basi subcordatæ, tuberculoso-rugosæ v. fere muricatæ, areola latiuscula gynobasi conicæ affixæ.

Fig. 1. Flower. 2. Portion of the corolla-tube laid open, showing the stamen. 3. Summit of the style. 4. Nutlets: *a* inner view, *b* outer view.

Notwithstanding some little discrepancies in the shape of the areola by which the nutlets are attached, this plant clearly belongs to the genus *Echiochilon*, of which the previously known species is a much more scrubby plant, woody at the base and very hispid. The lower lip of the corolla is also much broader than in our plant, and the tube shorter.—G. BENTHAM.

Plate 1278.

CYATHOGYNE VIRIDIS, *Muell. Arg.*

EUPHORBIACEÆ, Tribe PHYLLANTHEÆ.

C. viridis, *Muell. Arg. in DC. Prod.* xv. ii. 226, *single species.*

HAB. West Tropical Africa, on the Gaboon river and Corisco bay, *G. Mann.*

Herba e basi perenni radicante erecta, pedalis, subsimplex, glabra v. pilis appressis raris conspersa, caule duriusculo at tenui. *Folia* alterna, petiolata, oblongo- v. ovali-elliptica, breviter et obtuse acuminata, basi angustata, 2–4-pollicaria, integerrima, tenuiter herbacea, pennivenia, venis primariis paucis distantibus tenuibus. *Flores* dioici, in spicas v. racemos axillares simplices v. parce ramosos folio breviores disposita, secus rhachin tenuem sub quaque bractea solitarii, masculi subsessiles, fœminei pedicellati. Bracteæ parvæ, diu persistentes. *Calyx* floris ♂ vix semilinea longior, sepalis 5 latiusculis æstivatione imbricatis. *Glandulæ* disci minutæ vix conspicuæ. *Stamina* exserta, sepalis opposita; antherarum loculi in alabastro penduli, sub anthesi patentes at vix erecti. *Ovarii* rudimentum apice in cyathum membranaceum expansum. *Calyx* floris ♀ fere maris, minus alte tamen divisus. *Ovarium* 3-loculare, loculis 2-ovulatis. *Styli* 3, lineares, erecti, crassiusculi, apice stigmatoso brevissime bifido.

Fig. 1. Male flower. 2. Stamen. 3. Female flower. 4. Style.

The genus is united by Baillon with *Antidesma*, though placed by Mueller in a different subtribe. It certainly is nearly allied to *Antidesma*, but the herbaceous habit and the structure of the female flowers appear to be quite sufficient to keep it distinct, independently of the fruit, which is unknown in a ripe state; but from the slightly enlarged ovary, it is not the one-seeded drupe of *Antidesma*, but probably the ordinary Euphorbiaceous 3-celled capsule dividing into 2-valved cocci.—G. Bentham.

Plate 1279.

LACHNOSTYLIS CAPENSIS, *Turcz.* (L. hirta, *Muell. Arg.*)

Euphorbiaceæ, Tribe Phyllantheæ.

L. capensis *Turcz. in Bull. Soc. Imp. Nat. Mosc.* 1846, 503. L. hirta, *Muell. Arg. in DC. Prod.* xv. ii. 224, *single species.*

Hab. Cape Colony, South Africa, chiefly in the Uitenhage district.

Frutex ramosissimus, dense foliosus. *Folia* alterna, breviter petiolata, oblonga v. obovalia, obtusa, integerrima, coriacea, tenuiter pennivenia, $\frac{1}{2}$–$1\frac{1}{2}$-pollicaria. *Stipulæ* minutæ, caducæ. *Flores* dioici, axillares, masculi fasciculati v. brevissime cymulosi, fœminei solitarii, breviter pedicellati, ebracteati. *Sepala* 5, membranacea, pubescentia. *Petala* 5, sepalis breviora. *Discus* in flore ♂ latus, villosissimus, in flore ♀ parum prominulus. *Stamina* 5, filamentis in medio disco in columnam tenuem alte coalitis, superne liberis radiato-patentibus; antherarum loculi paralleli, contigui, rima longitudinali dehiscentes. *Pistilli* rudi-

menta 3, brevia, filiformia, columnam terminantia. *Ovarium* in flore ♀ globosum, dense villosissimum, 3-loculare, loculis 2-ovulatis. Styli breves, plani, recurvo-patentes, 2-fidi. *Capsula* pericarpio crassiuscule crustaceo in coccos 2-valves dissiliens. *Semina* subglobosa, lævia, testa crassiuscule membranacea. *Albumen* tenue, fere ad membranam carnosulam embryonem includentem reductum. *Cotyledones* latissimæ, carnosulæ, varie contortuplicatæ, radicula sursum flexa.

PLATE 1279.—Fig. 1. Male flower. 2. Female flower. 3. Embryo. 4. Section of the same with the surrounding albumen.

The fruit of this curious genus was unknown until *Burchell's* specimens, n. 4823 and 5213 were received at Kew, which show its close affinity to the Brazilian and Guiana genus *Discocarpus*.

Mueller's name *Lachnostylis hirta*, taken from the Prodromus, was inadvertently inscribed on the plate, without perceiving that Turczaninow's *Lachnostylis capensis* had the right of priority as being the oldest correct name. Mueller changed it under the modern very objectional practice of detaching the adjective of an old incorrect name to combine it with the substantive of a more recent but correct name, and thus frame a third new one which cannot record the old one without explanation, and only adds a perfectly useless synonym. In the present case there was not even the excuse that Turczaninow ought to have recognised his plant in a Linnean *Cluytia*.—G. BENTHAM.

PLATE 1280.

CHORIOPHYLLUM MALAYANUM, *Benth.*

EUPHORBIACEÆ, Tribe PHYLLANTHEÆ.

Choriophyllum, *Benth. gen. nov.* *Flores* dioici, apetali. *Discus* 0. FL. ♂: *Sepala* 4, rarius 5–6, membranacea, lata, valde imbricata. *Stamina* 4, circa receptaculum v. ovarii rudimentum conicum affixa, sepalis opposita, filamentis liberis exsertis. *Antheræ* dorsifixæ, loculis extrorsum contiguis parallelis longitudinaliter dehiscentibus. FL. ♀: *Sepala* 4, crassa, carnosa, lata, circa ovarium arcte imbricata. *Ovarium* 3-loculare; styli distincti, breves, erecti, apice brevissime patentes, crassi, obtusi, indivisi. *Ovula* in loculis gemina. *Capsula* in coccos bivalves a columella persistente dissiliens. *Semina* in loculis gemina vel abortu solitaria, oblonga, testa crustacea nitida. *Albumen* carnosum. *Cotyledones* planæ, latæ. *Arbor* glabra. *Folia* opposita, breviter petiolata, integerrima, coriacea, tenuiter pennivenia. *Racemi* ♂ ad axillas v. ad nodos vetustos subterni, v. prope basin opposite ramosi, folio breviores, floribus parvis secus rhachin in cymulas paucas laxas dispositi. *Flores* ♀ in spicis sessilibus pauci, sessiles.

C. malayanum, *Benth. species unica.*

Hab. Malayan Archipelago and Peninsula. Singapore, *Wallich Cat. Herb. Ind. n.* 7975; Malacca, *Griffith*, *Maingay*; Penang, *Maingay*; Borneo, *Beccari*, n. 3270, 3305, 3329, 3344.

Arbor procera (*Maingay*), undique glabra. *Folia* quoad formam magnitudinem at etiam venationem variabilia, nunc anguste oblonga 2-3-pollicaria, nunc præsertim in speciminibus fructiferis ovata 3–6-pollicaria, apice obtusissime rotundata v. breviter obtuse acuminata, coriacea, nitida, venis primariis solis in folio juniore conspicuis, demum irregulariter reticulato-venulosa. *Inflorescentiæ* masculæ folio 2–3-plo breviores, floribundæ, floribus parvis glabris. *Spicæ* fœmineæ per anthesin vix semipollicares 3–4-floræ. Capsulæ columella semipollicaris.

Fig. 1. Male flower in bud. 2. Male flower open. 3. Stamens. 4. Female flower. 5. Ovary, transverse section.

This genus is evidently nearly allied to the New-Caledonian *Longetia* with which Baillon thinks it might be united. The inflorescence is rather that of *Buræavia* from the same island, distinguished by Baillon chiefly by the arillus or strophiole crowning the seed, and consisting of numerous closely packed fleshy filaments. Maingay describes the same in the seeds of *Choriophyllum*, but all trace of it disappears from the dried seed, possibly falling off as the capsule bursts open. In all our fruiting specimens (from Wallich, Griffith and Maingay) the seeds and valves of the cocci are loose, the columella alone remaining persistent. *Choriophyllum* differs from both *Longetia* and *Buræavia* in the stamens constantly equal in number to the sepals and opposite them round a broad conical central receptacle or disk.—G. Bentham.

Plate 1281.

MAREYA MICRANTHA, *Muell. Arg.*

Euphorbiaceæ, Sub-tribe Acalypheæ.

M. micrantha (genuina) *Muell. Arg. in DC. Prod.* xv. ii. 792, foliis obovali oblongis vix obtuse acuminatis integerrimis v. rarissime pauci-dentatis, spicis gracillimis.

Hab. West Tropical Africa, isle of Fernando Po, *Vogel*, *Mann*; Nun river, *Mann*.

Frutex 10–15-pedalis ramosissimus v. arbuscula 20–25-pedalis. *Folia* alterna, breviter petiolata, obovali-oblonga, 3–6-pollicaria, tenuiter coriacea, glabra, subtus præsertim pallida. *Spicæ* in axillis superioribus simplices, folio sæpius longiores, rhachi rigide filiformi. *Flores* secus rhachin dissite glomerati, nunc omnes in glomerulo masculi, nunc in quoque glomerulo una fœminea, duo v. plures masculi. *Calyx* floris masculi in alabastro globosus, clausus, per anthesin valvatim 3-partitus

rarius 4-partitus. *Stamina* 10 ad 20, antherarum loculis distinctis oblongis substipitatis, in alabastro pendulis demum ascendentibus, apice dehiscentibus. *Floris* fœminei sepala 4–6, parva, imbricata, sub fructu patentia. *Styli* 3, recurvi, crassiusculi, indivisi, papilloso-plumosi. *Capsula* parva, pubescens, 3-cocca.

Fig. 1. Male flower. 2. Anther and portion of filament. 3. Portion of fruiting spike. 3. Capsule seen from underneath with the persistent perianth. 4. Capsule and styles.

Mueller considers the two species published in the Niger Flora under *Acalypha* as varieties of one. If that view be adopted, Baillon's name, *Mareya spicata*, would have the right of priority.

Plate 1282.

TETRADENIA FRUTICOSA, *Benth.*

Labiatæ, Tribe Satureineæ.

T. fruticosa, *Benth. in DC. Prod.* xii. 159, *single species.*

Hab. Madagascar, near Tanararivou, *Helsinger and Bojer*, *Lyall.*

Frutex, ramis vix tetragonis cano- vel subrufo-tomentosis. *Folia* petiolata, ovata v. oblonga, crenata, basi rotundata, mollia, rugosa, supra viridia tomentoso-pubescentia, subtus cano-tomentosa. Verticillastri 6–10-flori, dense spicati. Spicæ numerosæ, cylindraceæ, subpollicares, pedunculatæ, ad apices ramorum racemoso-paniculatæ, panicula densa floribunda. Flores minuti, sessiles. Folia floralia sub paniculis ramulisque caulinis conformia at gradatim minora, sub pedunculis summis parva bracteæformia, sub verticillastris minima, bracteæ sub floribus minutæ v. 0. Calyx minutus, post anthesin decumbens, extus cano-tomentosus. Corolla calycem duplo superans, lobis 5 latis patentibus subæqualibus, 2 posticis basi connatis. Stamina exserta, patentia, antherarum loculi divaricati mox confluentes. Disci glandulæ 4, nunc omnes æquales ovario longiores, nunc 2 cæteris breviores. Nuculæ maturæ ignotæ.—G. Bentham.

Fig. 1. Floral leaf or bract subtending the verticillasters. 2. Calyx. 3. Corolla and stamens. 4. Anthers. 5. Hypogynous disk and ovary.

Plate 1283.

EUPHRASIA (ANAGOSPERMA) DISPERMA, *Hook f.*

Scrophularineæ, Tribe Euphrasieæ.

E. (Anagosperma) disperma, *Hook f.*; caulibus repentibus tenuissimis intertextis sparse glanduloso-puberulis, foliis minutis patulis ovato-lanceolatis acuminatis, glaberrimis, marginibus integerrimis planis floribus solitariis axillaribus, calyce brevi, corollæ tubo elongato angustissimo, antheris magnis exsertis, ovarii loculis 1-ovulatis.

New Zealand: Okarita in the South Island, *Mr. Hamilton* (*T. Kirk*).

Perpusilla, caulibus 2–3-pollicaribus flexuosis filiformibus, radiculos exiles emittentibus, pilis flexuosis apice ut videtur glandulosis sparsis. *Folia* per paria sparsa, $\frac{1}{6}$ poll. longa, basi angustata sed vix petiolata, apice acutissima, enervia. *Flores* solitarii, erecti, breviter pedunculati. *Calyx* subæqualis, ad medium 5-fidus, lobis ovatis acutis erectis. *Corolla* pro planta maxima, stricta, erecta; tubo $\frac{1}{2}$–$\frac{3}{4}$ poll. longo sparse piloso, inferne gracillimo, superne sensim elongato-infundibulari; limbus parvus, bilabiatus, labio superiore erecto obcordato 2-lobo, inferiore paulo breviore 3-lobo, lobis late oblongis æquilongis medio latiore retuso. *Stamina* 4; antheræ magnæ, lobis labii inferioris fere æquilongæ, ellipsoideæ, acutæ, loculis basi contiguis aristato-acuminatis. *Stylus* gracillimus, stigmate circinnatim incurvo. *Ovarium* late ovoideum, 2-loculare, loculis 1-ovulatis; ovula ab apice loculi pendula, lineari-clavata.

An exceedingly curious plant, differing from its congeners, and, indeed, from all other *Scrophularineæ* in its solitary ovules. This character, together with its solitary axillary flowers, and the extraordinary length of the corolla-tube, would constitute of it a very distinct genus, were it not for the New Zealand *E. repens*, which has the same habit, and long flower, and of which the cells of the ovary have each two superposed ovules. The fruit is known in neither of these species: if indehiscent in both, they would form a genus, instead of a sub-genus, under which I now place them, with the name *Anagosperma*, from the reduced number of seeds.—J. D. Hooker.

Fig. 1. Flower. 2. Back and front views of anthers. 3. Stigma. 4. Longitudinal section of ovary—*all enlarged.*

Plate 1284.

LEIDESIA CAPENSIS, *Muell. Arg.*

Euphorbiaceæ, Subtribe Acalypheæ.

L. capensis, *Muell. Arg. in DC. Prod.* xv. ii. 793, foliis ovatis utroque latere 4–7-dentatis, bracteis masculis subacutis.

Hab. Cape of Good Hope, damp shady places in the Cape district, received from numerous collectors.

Herba annua, tenera, diffuse ramosa, glabra, semipedalis ad pedalis. *Folia* alterna v. rarius hinc inde subopposita, longe petiolata, ovata, obtusa v. brevissime obtuseque acuminata, obtuse dentata, pleraque pollicaria, tenuiter membranacea, pennivenia. *Racemi* terminales v. in dichotomeis ramorum, tenelli, ½–1-pollicares. *Flores* masculi minimi, apicem versus racemi in fasciculos plures dispositi, bracteis sub fasciculis parvis acutis sæpius setoso-ciliatis. *Calyx* in alabastro globosus, clausus, sub anthesin valvatim 3-partitus, patens. *Stamina* 4–7 ; antherarum loculi ovoideo-globosi, distincti, primum penduli paralleli, post anthesin sæpe divaricati. *Flores* fœminei ad basin racemi pauci, singuli bractea foliaceo stipati. *Perianthum* 0. *Styli* 2 lineares, patentes. *Capsula* 2-cocca.—G. Bentham.

Fig. 1. Cluster of male flowers. 2. Female flower. 3. Single male flower, the anther-cells rather too close.

Plate 1285.

CARDAMINE PARADOXA, *Hance.*

Cruciferæ.

C. paradoxa, *Hance in Seemann's Journ. Bot.* vi. (1868), p. 111, glabra, foliis petiolatis 3-foliolatis, foliolis majusculis petiolulatis ovatis v. ovato-lanceolatis obtusiusculis crenato- v. sinuato-dentatis, lateralibus basi truncatis late rotundatisve, racemis terminalibus paucis paniculatis, pedicellis demum patentibus flore æquilongis, siliquis immaturis breviter stipitatis ellipticis utrinque acutatis stylo persistente rostratis, seminibus sæpe solitariis pendulis funiculatis.

HAB. Canton Province, South China, *Mr. Sampson and Dr. Hance.*

Caules erecti v. adscendentes 1–1½-ped. glabri sulcati. *Foliola* 1–1½-poll. longa, ⅓–¾-poll. lata; petiolulus foliol. terminalis 2–5 lin. longus; petiolus foliorum infer. 2–3-poll. longus. *Racemi* graciles 1½–3-poll. longi; flores 2–2½ lin. diam. albi. *Sepala* adscendentia oblanceolata obtusa. *Petala* calyce longiora oblanceolato-spathulata obtusa integra basi angustata.

Our specimens do not afford seeds sufficiently matured for analysis. —D. OLIVER.

Fig. 1. Flower. 2. Ovary laid open.

PLATE 1286.

STILBANTHUS SCANDENS, *Hook f*

AMARANTHACEÆ, Tribe AMARANTHEÆ.

Stilbanthus, *Hook f. Gen. nov.* Flores hermaphroditi, bracteati et 2-bracteolati. *Perianthium* basi non induratum, elongatum, nitidum, foliolis 5 erectis ovato-lanceolatis acutis nervosis dorso sub apice sericeo-barbatis, exterioribus latioribus. *Stamina* 5, filamentis elongatis ciliolatis basi breviter connatis, staminodiis interjectis æquilongis ligulatis penicillatis; antheræ didymæ, 2-loculares. *Ovarium* oblongum, compressum, apice penicillatum; stylus filiformis, stigmate capitellato; ovulum 1, oblongum, ab apice funiculi basilaris ascendentis pendulum. *Utriculus* perianthis indutus, oblongus, apice villosus, compressus, membranaceus, indehiscens. *Semen* verticale, inversum, late oblongum, testa tenuiter coriacea brunnea, arillo 0; embryo annularis, hippocrepicus, radicula ascendente.—Arbor trunco robusto, alte scandens, ramulis herbaceis dependentibus, obtuse 4-gonis, ramulis foliisque pubescentibus. Folia opposita, petiolata, ampla, elliptico-ovata, caudato-acuminata, integerrima, nervis arcuatis. Flores pro ordine magni, spicati, albi, splendentes, spicis pedunculatis in paniculas trichotome ramosas terminales ferrugineo-pubescentes dispositis; bracteis bracteolisque late ovatis aristato-acuminatis scariosis nitidis.

HAB. Forests of the Sikkim Himalaya at elevation of 4–6000 feet; *Herb. Griffith, J. D. H. Fl. August, Sept.*

This is the finest specimen of the Natural Order hitherto discovered, climbing to a great height, and festooning forest trees with its copious foliage and abundant silky glistening flowers. It belongs to the subtribe

Achyrantheæ, and to the division with conspicuous staminodes, and differs from *Achyranthes* itself in habit, in the elongate scarious perianth which is not indurated at the base, and in the long slender staminodes.—J. D. Hooker.

Fig. 1. Flower and bracteoles. 2. Stamens, staminodes and pistil, *enlarged*.

Plate 1287.

UAPACA GUINEENSIS, *Muell. Arg.*

Euphorbiaceæ, Tribe Phyllantheæ.

U. guianensis, *Muell. Arg. in DC. Prod.* xv. ii. 490; 'floribus luteis, involucri foliis coriaceo-membranceis, calyce masculo inæqualiter 5-partito cum filamentis parce pubescentibus, antheris rigidis infuscatis apice haud bilobis, connectivo valido incrassato hispidulo, rudimento ovarii hispido, fructu 2–4-loculari ellipsoideo verruculoso.'

Hab. West Tropical Africa, Fernando Po, *Vogel*; Nupe and Nun river, *Barter*.

Arbor 50-pedalis. *Folia* breviter petiolata, obovata v. obovali-oblonga, obtusa v. vix brevissime obtuseque acuminata, semipedalia v. usque ad pedalia, coriacea, pennivenia, venis primariis distantibus subtus prominulis. *Involucra* tam mascula quam fœminea pedunculo 6–9 lin. longo fulta, ad axillas v. ad nodos foliorum delapsorum solitaria, ovoideo-globosa, 3–4 lin. diametro, mascula amentum subglobosum, fœminea florem unicum includentia. *Flores* ♂ in rhachi lineari densissime conferta, calycibus cujusve floris haud facile distinguendis, segmentis parvis linearibus valde inæqualibus filamentisque pubescentibus. *Ovarium* floris ♀ intra involucrum (v. calycem?) sessile, glandulis disci hypogyni subdistinctis. *Styli* petaloideo-dilatati, crassiusculi, margine breviter lobati, supra ovarium arcte reflexi. *Fructus* ellipsoideus v. fere globosus, siccitate sulcato-rugosus v. lævis, pollicem diametro, exocarpio crasso carnoso, endocarpio 3-pyreno.

Fig. 1. Involucre in bud. 2. Male amentum with the involucre open. 3. Male flower, the calycine segments represented as too nnmerous, but the flowers are so very closely packed that it is difficult to distinguish the calyx of each. 4. Ovary and style. 5. Fruit. 6. The same, transverse section.

Two or three of the African species of Uapaca are so very closely allied that our specimens scarcely suffice to distinguish them accurately. I have therefore copied Mueller's diagnosis, the specimen here figured having been determined by him; the so-called calyx of the female flower is so exactly like the male involucre, that it is difficult not to regard it rather as a one-flowered involucre than a calyx.—G. Bentham.

Plate 1288.

CŒLODEPAS WALLICHIANUM, *Benth.*

Euphorbiaceæ, Tribe Crotoneæ.

C. Wallichianum, *Benth. sp. n.*; foliis subsessilibus ample oblongo-lanceolatis integerrimis v. vix sinuatis coriaceis, spicis axillaribus interruptis superioribus androgynis inferioribus brevibus fœmineis, antherarum loculis introrsum pendulis, stylis dilatatis fimbriato-ramosissimis.

Hab. Penang Hills, *G. Porter*, *Wall. Cat. Herb. Ind. n.* 9098.

Arbor? inflorescentia excepta glabra, ramulis subangulatis. *Folia* alterna, 6–10-pollicaria, subacuminata, integerrima v. apicem versus obscure sinuato-crenata, basi petiolo brevissimo crasso v. vix ullo rotundata v. subcordata, tenuiter coriacea, nitidula, prominenter pennivenia et reticulato-venulosa. *Stipulæ* parvæ, subulatæ. *Spicæ* superiores 1–1½-pollicares, rhachi cano-tomentella. *Flores* superiores masculi minimi, sessiles, per 2–3-glomerati, glomerulis globosis dissitis sessilibus bractea minuta vix conspicua subtensis; inferiores v. in spicis inferioribus omnes (4–6) fœminei, intra bracteas minimas solitarii sessiles. *Perianthium floris* ♂ globosum, per anthesin breviter valvatim 3–4-fidum, stamina et ovarii rudimentum obtegens. *Stamina* 6–8, filamentis crassis medio dilatatis, basi uniseriatim connatis; antherarum loculi a connectivo inflexo introrsum penduli, leviter divergentes. Ovarii rudimentum crassum, apice dilatato-truncatum, stamina et perianthium æquans. *Perianthium floris* ♀ cupulare, ovario arcte appressum, extus tomentosum, lobis brevibus. *Ovarium* pubescens. *Styli* a basi dilatati et breviter connati, erecto-patentes, late et irregulariter lobati, lobis dentatis et facie superiore dense fimbriatis.

Fig. 1. Male flower. 2. Stamens enclosing the rudimentary ovary. 3. Stamens. 4. Female flower. 5. Ovary, transverse section.

This species comes nearer to the original *C. bantamensis* Hassk. than to the *C. calycinum* figured by Beddome, but is quite distinct from both in foliage as well as in the flowers. All have the peculiar andrœcium exceptional in the order.

Plate 1289.

DICŒLIA BECCARIANA, *Benth.*

Euphorbiaceæ, Tribe Phyllantheæ.

Dicœlia, *Benth., gen. nov.* *Flores* monoici, petaliferi. *Discus* 0. Fl. ♂ : *Calyx* parvus, 5-fidus. *Petala* 5, valvata, crassa, extus convexa, intus apice crasso-carnosa, infra medium concava, linea elevata centrali quasi in locellos duo divisa. *Stamina* 5, petalis alterna, filamentis brevibus distinctis ; antherarum loculi majusculi, paralleli, distincti, in alabastro in locellis petalorum contiguorum recepti. *Ovarii* rudimentum 3–5-fidum, lobis ultra petala in appendices lineares hamatos productis. Fl. ♀ : *Calyx* alte 5-fidus, petalis paullo brevior. *Petala* ovata, obtusa, concava, haud incrassata, leviter imbricata. *Ovarium* subglobosum, 3-sulcum, pubescens, 3-loculare ; styli distincti v. basi vix connati, lineares, rigiduli, indivisi, erecti, apice inflexi breviterque stigmatoso-dilatati. *Ovula* in loculis gemina sub obturatore unico. *Fructus* . . . .—*Frutex* v. arbor. *Folia* alterna, ampla, integerrima, pennivenia. *Racemi* in axillis superioribus solitarii, florum fasciculis secus rhachin dissitis plerisque androgynis.

D. Beccariana, *Benth., single species.*

Hab. Borneo, *Beccari, n.* 1397.

Frutex videtur v. arbor, inflorescentia excepta glaber. *Folia* in petiolo 1–2-pollicari subarticulata, in speciminibus nostris 8–10-poll. longa, 3–4-poll. lata, tenuiter coriacea, nitidula, venis primariis subtus prominentibus dissitis marginem arcuato-approximantibus, venulis vix conspicuis. *Stipulæ* parvæ caducæ. *Racemi* longuisculi at foliis breviores, tenuiter cano-puberuli. *Bracteæ* parvæ, secus rhachin dissitæ. *Flores* sub quaque bractea 3–7, pedicellis 1–1½-lin. longis fulti, centrali sæpius fœmineo lateralibus masculis ; fasciculus igitur est cymula rhachi communi haud evoluto ; flores singuli vix lineam diametro v. fœminei paullo majores. *Fructus* desideratur, sed ex ovario post anthesin parum aucto capsula ad normam tricocca videtur, semine juniore non lateraliter dilatato.

Fig. 1. Male flower before opening. 2. The same, expanded. 3. Female flowers. 4. Anthers seen from inside. 5. Ovary, longitudinal section, showing the two ovules of one cell.

The singular petals of the male flower are only to be met with in *Galearia*, to which genus I should have referred this plant, had not the two ovules in each cell removed it to a different tribe. The inflorescence is also monœcious and axillary, not terminal, and there are some other differences in the flowers, besides that the young seeds show no tendency to acquire the peculiar form of those of *Galearia*.—G. Bentham.

PLATE 1290.

REICHENBACHIA HIRSUTA.

NYCTAGINEÆ.

Perianthium exinvolucratum, tubulosum, ore brevissime obliquo 4–5-dentato, dentibus erectis lanceolatis obtusiusculis subæqualibus v. 2–3 ceteris longioribus induplicato-valvatis. *Stamina* 2, rarissime 3, hypogyna, inclusa, filamentis elongatis filiformibus complanatis; antheræ dorso affixæ, obtusæ, loculis sejunctis oblongis. *Ovarium* oblique oblongum, compressum, basi attenuatum, apice oblique truncatum, stellato-tomentosum; stigmate e papillis subterminalibus; ovulum basilare, $\frac{1}{2}$-anatropum, funiculo brevi. *Utriculus* basi perianthi accrescentis tenuiter coriacei basi subcostati inclusus, pericarpio coriaceo-tomentoso. *Semen* subglobosum, basi rostellatum, sessile, erectum, leviter compressum, testa tenuiter crustacea piceo-nitida, albuminis strato tenui carnoso; embryonis uncinati cotyledones conduplicatæ, radicula cotyledonum longitudine, apice acuto rostello testa incluso. Frutex v. arbuscula *pilis stellatis griseo-pubescens, ramulis teretibus.* Folia *breviter petiolata, alterna, ovata, subacuta, integerrima, basi acuta, apice glandula nuda obtusiuscula terminata, nervis supra obscuris subtus tenuibus arcuatis.* Flores *numerosi, axillares, fascicrulati, pedicellati, tomentosi, pedicellis basi minute bracteolatis.*

R. hirsuta; *Spreng. in Bull. Soc. Philom.* 1823, p. 54, t. 1.

HAB. Brazil, *Sprengel*; Paraguay, in hedges at Assumption. *Balansa.*

Arbuscula ramossissima, 2–3-metralis (Balansa). *Folia* $1\frac{1}{2}$–2-poll. longa, supra luride viridia, subtus grisea v. juniora albescentia; petiolo gracile $\frac{1}{6}$-pollicari. *Flores* suberecti v. patentes, pedicello gracili. *Perianthium* $\frac{1}{4}$-poll. longum, fructiferum elongatum, tenuiter coriaceum, 10-nervosum, sed vix costatum, dentibus sæpe irregularibus, tubo intus glabro. *Stamina* 3 rarissime occurrunt, quorum 2 collateralia; filamentorum lateribus complanatis ovarii oppositis glaberrimis; antherarum loculi æquales v. subinæquales. *Ovarium* stellato-pubescens, apicem versus tomentosum oblique truncatum et stigmatiferum.

A very little known plant, of which there is no other description or figure than that quoted above. I do not find the tips of the leaves to be produced into the spindle-shaped body figured by Sprengel, but to terminate in an obtuse glabrous gland.—J. D. HOOKER.

Fig. 1. Flower. 2. Stamina and ovary viewed from the edge of the ovary. 3. Stamen and ovary viewed from the flattened side of the latter. 5. Section of ovary with ovule. 6. Ovule. 7. Seed, transverse section,—*all enlarged.*

Plate 1291.

ACALYPHA SPINESCENS, *Benth.*

Euphorbiaceæ, Tribe Crotoneæ.

A. spinescens, *Benth.*, *sp. n.*, fruticosa, divaricato-ramosa, spinis axillaribus armata, foliis subsessilibus ovatis grosse crenatis penniveniis, spicis unisexualibus, masculis brevibus tenuibus, fœmineis 1-bracteatis v. dissite 2-bracteatis, bracteis fœmineis orbiculato-cordatis grosse pluri-crenatis sublobatis.

Hab. Malayan Archipelago, Gorontalo in North Celebes, *Riedel.*

Frutex ut videtur divaricato-ramosissimus, ramis rigidulis lævibus albis. *Spinæ* axillares v. interdum folio abortiente laterales (pedunculi v. ramuli abortientes?) nunc nudi ½–1-pollicares, nunc paullo longiores infra apicem folium v. spicam ferentes. *Folia* 1–2-pollicaria. *Spicæ masculæ* in specimine pleræque infra apicem spinæ solitariæ, sessiles, tenellæ, 4–8 lin. longæ. *Flores* minimi secus rhachin glomerulati, glomerulis approximatis bractea vix conspicua subtensis. *Calyx* alte 4-fidus. *Stamina* 8. *Spicæ fœmineæ* ad axillas foliorum v. interdum spinæ solitariæ, rhachi filiformi. *Bractea* interdum unica, terminalis, sed sæpius additur altera supra medium rhacheos sessilis, per anthesin 1 lin., demum 3 lin. diametro, crenaturis 7–13. *Flos* intra bracteam solitarius sessilis. *Sepala* 3, minuta. *Ovarium* dense hirsutum. *Styli* laciniati uti antheræ generis.

Fig. 1. Portion of male spike. 2. Male perianth in bud. 3. The same, open. 4. Anther. 5. Female flower and bract.

The habit and numerous strong spines of this species give it a very different aspect from the remainder of this extensive genus, the only approach to it being in the Australian *A. eremorum*, Muell. Arg., and *A. capillipes*, F. Muell., both of which are, however, abundantly distinct in foliage and inflorescence.—G. Bentham.

Plates 1292, 1293.

MELANOCHYLA TOMENTOSA.

Anacardiaceæ, Tribe Anacardieæ.

M. tomentosa, *Hook. f. Fl. Brit. Ind.* ii. 38; ramulis petiolis inflorescentia et costa foliorum subtus velutino-tomentosis, foliis oblongis v. obovato-oblongis acuminatis basi rotundatis v. subcordatis nervis subtus prominentibus.

Hab. Malacca, *Maingay*.

Ramuli robusti, pilis ferrugineis mollibus dense tomentosi. *Folia* 6–14 poll. longa, 2–4 poll. lata, dura, supra lævia opaca costa tenui, subtus pallida, nervis utrinque 20–35 validis arcuatis pubescentibus; petiolo robusto $\frac{1}{4}$—$\frac{1}{2}$ poll. longo. *Panicula* elongata, laxe ramosa, rhachi villosa, ramulis pubescentibus. *Fl.* ♂ minuti, pedicellis subcymosis brevibus. *Calyx* ad medium 5-lobus, lobis obtusis. *Petala* oblonga, obtusa, valde coriacea, intus villosa, extus pubescentia. *Filamenta* rigidula, demum petalis æquilonga. *Drupa* ellipsoidea v. globosa, aurantiaca, ferrugineo-pubescens, sarcocarpio resina atra repleto.—J. D. Hooker.

Plate 1292.—Fig. 1. Male flower. 2. The same cut open vertically—*both enlarged.*

Plate 1293.—Fig. 1. Transverse section of drupe—*of the natural size.*

Plate 1294.

ELATERIOSPERMUM TAPOS, *Blume.*

Euphorbiaceæ, Tribe Crotoneæ.

E. Tapos, *Blume, Bijdr.* 621; *Muell. Arg. in DC. Prod.* xv. ii. 1131, *single species.*

Hab. Java, *Blume*; Malacca, *Griffith, Maingay.*

Arbor pulcherrima, coma densa oblonga, partibus novellis sanguineis (*Griffith*), tota glabra. *Folia* alterna, ad apicem petioli longiusculi subarticulata, oblonga, breviter acuminata, integerrima, basi rotundata, 4–8-pollicaria, tenuiter coriacea, pennivenia et inter venas primarias reticulato-venulosa, petiolo apice 2-glanduloso. *Stipulæ* caducissimæ, ex Griffithio virides. *Pedunculi* ad apices ramulorum ad basin innovationum plures, 2–3-pollicares, foliis multo breviores, cymam laxe trichotomam ferentes, flore centrali sessili v. brevissime pedicellato fœmineo, cæteris masculis. Fl. ♂: *Calyx* globosus, sepalis 4–5 valde imbricatis. *Stamina* 10–18, receptaculo crassiusculo villoso imposita, filamentis brevibus liberis. *Antheræ* oblongæ, erectæ, loculis adnatis parallelis. *Ovarii* rudimentum minutum v. 0. Fl. ♀: *Sepala* sæpius 6, quam in mare paullo majora, caducissima. *Discus* hypogynus parum prominulus. *Ovarium* villosum, 3-loculare, loculis 1-ovulatis, apice breviter contractum; styli brevissimi, crassi, in stigmata divaricato-biloba fere semilunata patentia dilatati. *Capsula* subglobosa, $1\frac{1}{2}$ poll. diametro, leviter 3-sulca, in coccos 2-valvis elastice dissiliens, exocarpio carnoso-coriaceo, endocarpio

duro. *Semina* oblonga, crassa, 1¼-poll. longa, medio dorso subcarinata, facie interiore sub apice hilo parvo affixa, testa coriaceo-crustacea nitida. *Albumen* præter membranam papyraceam embryonem includentem. 0. *Cotyledones* magnæ, æquales, crasso-carnosæ, radicula minima inter eas retracta.

Fig. 1. Male flower with the sepals removed, showing the stamens and bud. 2. Female bud. 3. Female flower with one of the sepals turned down, showing the ovary. 4. Ovary, transverse section. 5. Styles seen from above. 6. Two-valved coccus after dehiscence having expelled the seed. 7. Seed, transverse section. 8. Cotyledon (*about one-third natural size*).

Blume describes the seeds as 'subpulposo-arillata.' Maingay in his notes says, with a query, 'Arillus none?' The dried seeds show no arillus, but in many Euphorbiaceæ, what is called a pulpy arillus is often the pulpy external layer of the testa, which disappears when dry. In Maingay's specimens, I find a whitish cellular substance lining the testa outside the membrane which encloses the embryo.—G. Bentham.

Plate 1295.

PROCRIS LÆVIGATA, *Blume.*

Urticaceæ, Tribe Urticeæ.

P. lævigata, *Blume, Bijdr.* 508, *Wedd. in DC. Prod.* xvi. i. 192, foliis oblique oblongo-lanceolatis acuminatis superne paucidentatis, floribus masculis capitulisque fœmineis ad nodos sæpius defoliatos fasciculatis, perianthio fœmineo minimo cyathiformi subintegerrimo.

Hab. Widely spread over Tropical Africa and in East India, from Ceylon and the Peninsula to Eastern Bengal and Sikkim, chiefly on the trunks of trees.

Caules epiphytici, carnosuli, 1–½-pedales, simplices v. parce ramosi. *Folia* disticha, 3–6-pollicaria, basi in petiolum brevem contracta, membranacea v. crassiuscula, oblique pennivenia, addito sæpe folio minimo subopposito. *Flores* dioici, pedicelli masculi ad nodos fasciculati, uniflori, 1–2 lin. longi. *Perianthium* alte 5-fidum. *Stamina* primum perianthio breviora, antheris supra filamenta inflexis, demum elastice porrecta perianthio longiora. *Capitula* fœminea 1½–2-lin. diametro, pedunculis fasciculatis vix linea longioribus, receptaculo carnosulo. *Perianthium* minimum vix prominulum. *Achænia* omnino exserta, ovata, obtusa v. acutiuscula, vix semilineam longa.

Fig. 1. Male perianth opened, showing the stamens with the filaments bent

inwards before they spread out elastically, after which they are longer than the perianth. 2. Female head of fruits.

This species differs much from the rest of the genus in inflorescence, as well as in the female perianth. The small abortive leaves, which in many specimens are opposite or nearly opposite to the perfect ones, were entirely wanting in the specimen drawn, as in several others.—G. Bentham.

Plate 1296.

MÆSOBOTRYA FLORIBUNDA, *Benth.*

Euphorbiaceæ, Tribe Phyllantheæ.

Mæsobotrya, *Benth., gen. nov. Flores* dioici, apetali. Fl. ♂: *Calyx* 5-fidus, lobis leviter imbricatis. *Disci* glandulæ 5 staminibus alternæ. *Stamina* 5, lobis calycinis opposita, filamentis liberis; antherarum loculi distincti paralleli. *Ovarii* rudimentum crassum hirtellum. Fl. ♀: *Calyx* maris. *Discus* cupulatus, integer. *Ovarium* 2-loculare; styli brevissimi, crassiusculi, recurvo-patentes, bifidi. *Ovula* in loculis gemina. *Fructus* globosus (indehiscens?), pericarpio membranaceo-coriaceo (in vivo carnosulo?), loculo altero abortu vacuo altero monospermo. *Frutex* (v. arbor?). *Folia* alterna, integerrima, pennivenia. *Flores* utriusque sexus ad axillas racemosi.

M. floribunda, *Benth., single species.*

Hab. Tropical Africa, Niamniam and Monbuttu lands, *Schweinfurth.*

Frutex videtur elatior, glaber nisi pilis paucis brevibus ad innovationes pubescens. *Folia* alterna, petiolo $\frac{1}{2}$–$1\frac{1}{2}$-pollicari fulta, ovalia v. obovali-oblonga, apice rotundata v. breviter obtuseque acuminata, 3–6-pollicaria, integerrima, novella membranacea, demum tenuiter coriacea, venis primariis distantibus, intra marginem arcuato-anastomosantibus, venulis transversis haud numerosis. *Stipulæ* vix conspicuæ. *Racemi* masculi ad axillas fasciculati v. basi ramosi, $1\frac{1}{2}$–$2\frac{1}{2}$-pollicares, rhachi tenui glabra, floribus minimis brevissime pedicellatis dissite glomeratis, bracteis minimis; fœminei ad axillas solitarii v. gemini, per anthesin 1–2-pollicares, floribus parvis sessilibus numerosis at sub quaque bractea solitariis; fructiferi elongati, interdum folio vix breviores. *Fructus* late ovoideus v. fere globosus, $2\frac{1}{2}$–3 lin. diametro, ex Schweinfurth purpureus.

Fig. 1. Male flower, one lobe turned down showing the glands alternating with the stamens. 2. Stamens. 3. Female flower. 4. Ovary and disk, longitudinal section. 5. Ovary, transverse section.

This belongs to the group of genera united by Baillon with *Antidesma*, but re-

tained as distinct by all other botanists. Amongst them it is nearest allied to the American *Hieronyma*, but has neither the scurfy indumentum nor the drupaceous fruit of that genus, and the calyx is rather more deeply lobed. It has neither the one-celled ovary of *Antidesma* nor the dehiscent cocci of *Thecacoris*. The fruit in Schweinfurth's excellent specimens is not quite ripe, but has evidently reached its full size, and occasionally the seed is fully formed externally, but not ripe enough to show its internal structure.—G. Bentham.

Plate 1297.

LEPIDOTURUS LAXIFLORUS, *Benth.*

Euphorbiaceæ, Tribe Crotoneæ.

L. laxiflorus, *sp. nov.*, stipulis linearibus, foliis ovatis membranaceis breviter acuminatis basi rotundatis, spicis masculis laxis, bracteis ovatis obtusis, ovario dense, fructu brevissime hispidulo.

Hab. Tropical Africa, Niamniam country, *Schweinfurth* n. 2956 *and* 3072.

Arbuscula 15–20-pedalis, partibus novellis subsericeo-hispidulis, demum glabratis. *Folia* alterna, petiolata, 2–3-pollicaria, leviter lateque crenata, basi non v. vix cordata, membranacea, pennivenia et basi 3-nervia, tenuiter transversim reticulata. *Stipulæ* angustissimæ, 2–3 lin. longæ. *Spicæ* masculæ in ramis annotinis defoliatis ad nodos solitariæ, basi squamis ferrugineis imbricatis stipatæ, 2–4-pollicares. *Flores* secus rhachin dissite glomerati, parvi, breviter pedicellati. *Bracteæ* sub glomerulis ferrugineæ, ovatæ, obtusæ, concavæ, integerrimæ, 1–2 lin. longæ, persistentes. *Calyx* in alabastro globosus, per anthesin in segmenta 3–4 valvatim fissus. *Stamina* 8. *Spicæ* fœmineæ tenues, in axillis inferioribus v. ad apices ramorum hornotinorum foliatorum solitarii, floribus paucis dissitis sub bractea minuta sessilibus solitariisque v. ebracteatis. *Sepala* 2–3, parva, valde inæqualia. *Disci* hypogyni glandulæ 3–4. *Ovarium* pilis minimis dense hispidum, stylis 3 longe subulatis indivisis. *Capsula* jam valde aucta sed in speciminibus adhuc immatura, globoso-tridyma.

Fig. 1. Male flower open, seen from above. 2. Stamen, seen from the back. 3. Female flower. 4. Ovary, transverse section.

The species is evidently nearer to the Madagascar *L. alnifolius*, of which I have seen no good specimens, than to the western *L. occidentalis*, but differs from both as well in the shape of the leaves as in the much longer and looser male spikes. An imperfect male specimen from the Niger, *Barter*, may possibly belong to *L. laxiflorus*.

Plates 1298, 1299.

NEOBOUTONIA AFRICANA, *Muell. Arg.*

Euphorbiaceæ, Tribe Crotoneæ.

M. africana, *Muell. Arg. in DC. Prod.* xv. ii. 892, foliis subtus pube minuta stellulata canescentibus, paniculæ masculæ ramulis longis laxifloris.

Hab. Tropical Africa, Angola, *Welwitsch*; Niamniam Land, *Schweinfurth.*

Frutex elatus v. *arbor* 15–20-pedalis, ramis inflorescentia et foliorum pagina inferiore pilis minutis stellulatis conspersis. *Folia* alterna, longiuscule petiolata, inferiora late orbiculato-cordata fere pedalia, summa late ovata, omnia integerrima, pennivenia et transverse venulosa, basi 5-nervia, supra glabra, subtus pallide canescentia. *Paniculæ* in axillis summis simpliciter ramosæ, masculæ sæpe pedales, fœmineæ 2–4-pollicares, superiores foliis subtendentibus valde reductis paniculam terminalem basi foliatam efficiunt. *Flores* masculi parvi, secus ramulos dissite glomerati, fœminei sub quaque bractea solitarii. *Calyx* ♂ in alabastro globosus clausus, per anthesin in segmenta 2–3 fissus. *Stamina* 15–20, filamentis brevibus crassiusculis erectis; antheræ erectæ, prope basin affixæ, loculis introrsum parallelis. *Ovarii* rudimentum 0. *Calyx* ♀ alte 5-fidus, sub ovario patens, segmentis prius leviter imbricatis. *Ovarium* globosum, stellato-tomentosum. *Styli* breves, rigiduli, recurvo-patentes, 2-partiti. *Fructus* junior globosus non sulcatus.

Plate 1298.—Male specimen. Fig. 1. Bud. 2. Flower expanded. 3. Stamen, front and back view.

Plate 1299.—Female specimen. Fig. 1. Flower. 2. Styles seen from above. 3. Ovary, transverse section, represented as in the specimens laterally compressed, probably in drying. Both taken from Schweinfurth's specimens, with which Welwitsch's male specimens agree perfectly.

The *Conceveiba africana, Muell. Arg. in DC. Prod.* xv. ii. 897, from Prince's Island, West Tropical Africa, *Mann*, of which the male only is known, is evidently a second species of *Neoboutonia*, in which I can discover no difference from *N. africana*, except in the hispid petioles and principal veins of the leaf underneath, and the shorter branches of the panicles which, as in *N. africana*, form a large terminal compound stellately tomentose panicle. The specific name *africana* being preoccupied in the genus, I have called it *N. Mannii*. I cannot conceive the grounds upon which it was referred to the American genus *Conceveiba*, from which it differs as much in habit as in character.—G. Bentham.

Plate 1300.

RICINODENDRON AFRICANUS, *Muell. Arg.*

Euphorbiaceæ, Tribe Crotoneæ.

R. africanus, *Muell. Arg. in DC. Prod.*, xv. ii. 1111, *species unica.* Jatropha Heudelotii, *Baill.; Muell. Arg. l.c.* 1083.

Hab. West Tropical Africa, Bagroo river and Fernando Po, *Mann*, in Senegambia *Heudelot*, and in forest districts of Augola, *Welwitsch.*

Arbor 30-pedalis, ramis crassiusculis lævibus; innovationes folia novella et inflorescentiæ pilis minute stellatis tomentosæ v. fere lepidotæ. *Folia* alterna, longe petiolata, ampla, digitatim 5–7-foliolata v. minora 3-foliolata; foliola oblongo-obovata, acuminata, margine minute paucidentata, basi longe angustata, majora 6–9-pollicaria, membranacea, pennivenia, inter venas obscure venulosa. Stipulæ magnæ, late ovatæ orbiculatæ v. subpeltatæ, grosse dentatæ v. lobatæ, persistentes. *Paniculæ* masculæ ad folia summa axillares v. ad apicem ramis plures subfasciculatæ, laxe pyramidato-ramosæ, 1–1½-pedales. *Flores* masculi parvi, subglobosi, cymulosi, cymulis apices versus ramorum paniculæ pluribus breviter pedunculatis. *Bracteæ* sub pedunculis minutæ, sub pedicellis v. floribus obsoletæ. *Calyx* late campanulatus, dense tomentosus, alte 5-fidus, lobis latis obtusis imbricatis. *Petala* in corollam subglobosam, calyce paullo longiorem, breviter lateque 5-lobum connata. *Stamina* 10–15, receptaculo crassiusculo villoso glandulis 5 cincto inserta, filamentis liberis basi villosis, superne glabris rectis corollam vix superantibus, summo apice brevissime inflexis. Antheræ oblongæ, dorsifixæ, loculis parallelis contiguis longitudinaliter dehiscentibus. *Ovarii* rudimentum nullum.

Fig. 1. Male flower at the time of opening. 2. The same, the calyx and corolla removed, showing the glands, the receptacle, and stamens.

Our specimens from Mann and from Welwitsch are all males only, as here figured. The female has only been described from Heudelot's specimens, by Baillon, who, not knowing the males, referred the plant to *Jatropha*, notwithstanding the wide difference in habit and inflorescence. He has since, however, recognised the identity of his plant with Mueller's *Ricinodendron.* Mueller describes the petals as cohering only, not connate; but we find them perfectly united and inseparable without tearing, as in *Manniophyton.* In the female flower they are said to be free.—G. Bentham.

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Senecio Cheesemani, Hk.f.

A.M.C del

Inga acuminata Bth..

Balfourodendron eburneum, Mello.

A.M.C del.

Balfourodendron eburneum Mello.

A M C. del

Sphinctacanthus Griffithii, Benth.

Exocarya scleroides Benth.

Mimosa involucrata Benth

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A.M.C. del

Ancylanthus Monteiroi Oliv.

A.M.C. del.

Scytanthus laurifolius T And.

Gastranthus Schlechtendalii Mor.

A.M.C. del

Oreacanthus Mannii Benth.

A.M.C. del.

Evandra aristata R.Br.

AMC del.

Evandra pauciflora R.Br.

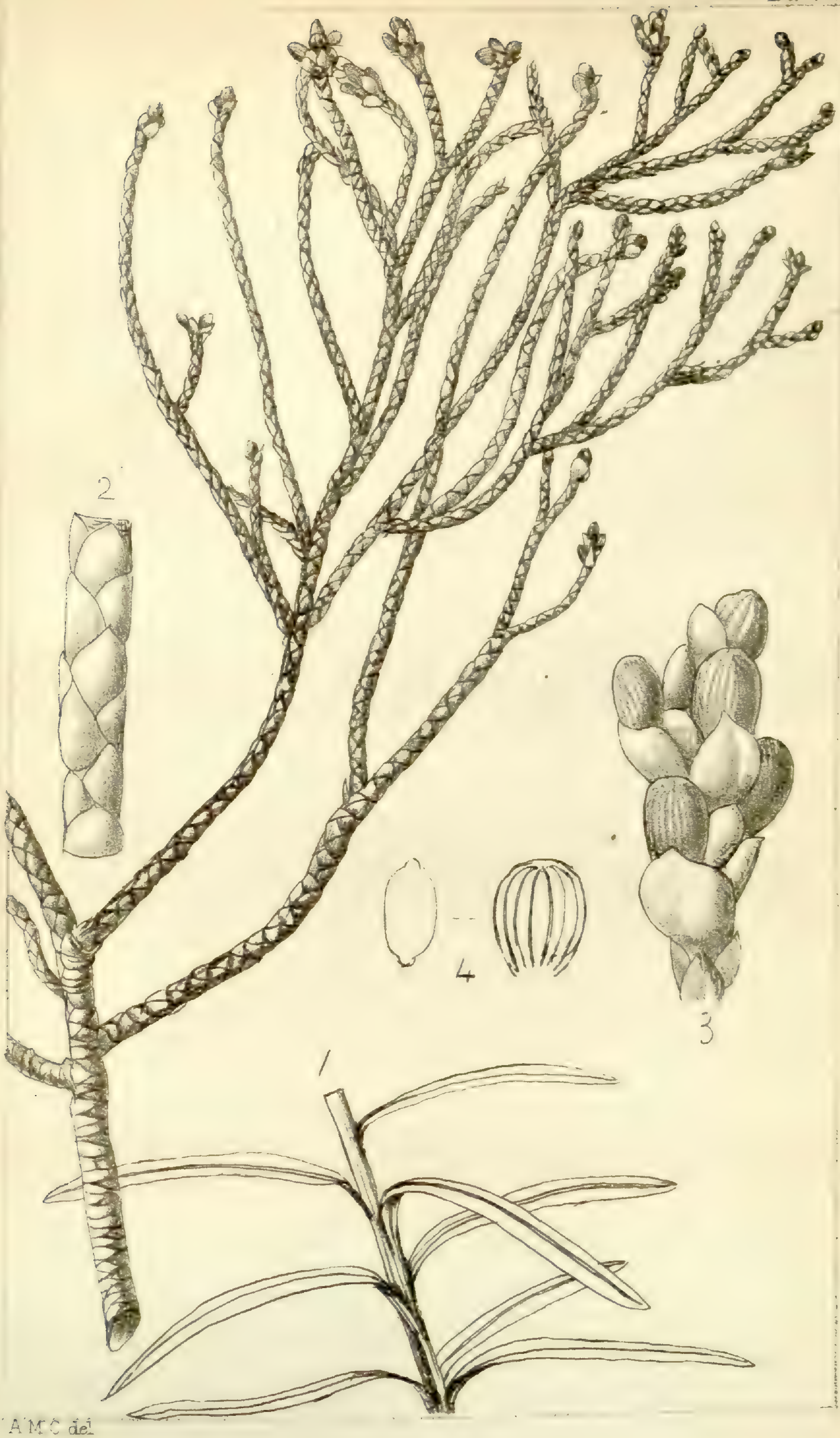
Madarosperma Trailliana, Benth.

Carpha alpina R,Br.

Notochæte hamosa Benth.

A.M.C del

Dacrydium Westlandicum T Kirk.



Dacrydium Kirkii, Hook f.

A.M.C del

Lamprothamnus zanguebaricus Hiern.

Cyclonema spinescens, Oliv.

Ficus Noronhæ Oliv.

Loranthus stenopetalus Oliv.

A M C del

Delphinium glaciale Hk.f & T

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A M C del.

Boerhaavia Schomburgkiana. Oliv.

A M C del

Oxalis Noronhæ Oliv.

A.M.C. del.

Ancrumia cuspidata, Harv.

Landolphia capensis, Oliv.

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A M. C del

Chironia (Xanthochiron) exigua, Oliv.

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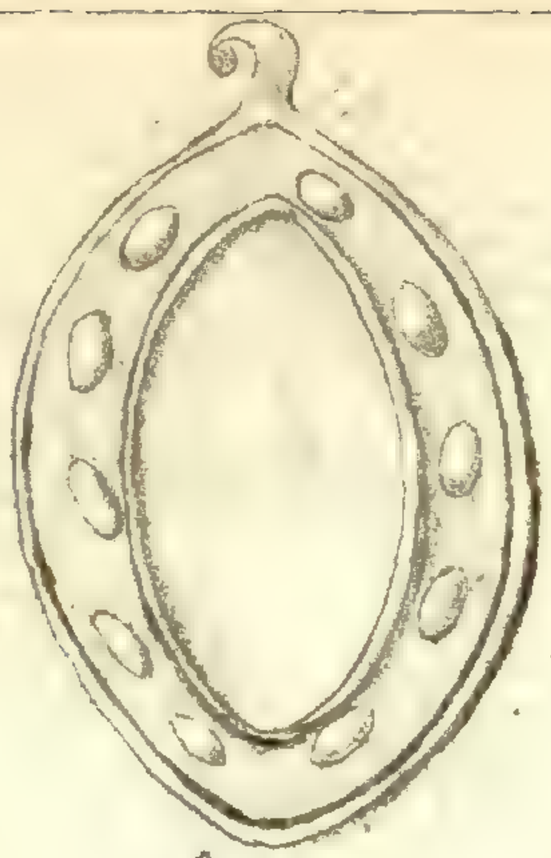
Macgregoria racemigera F. Muell.



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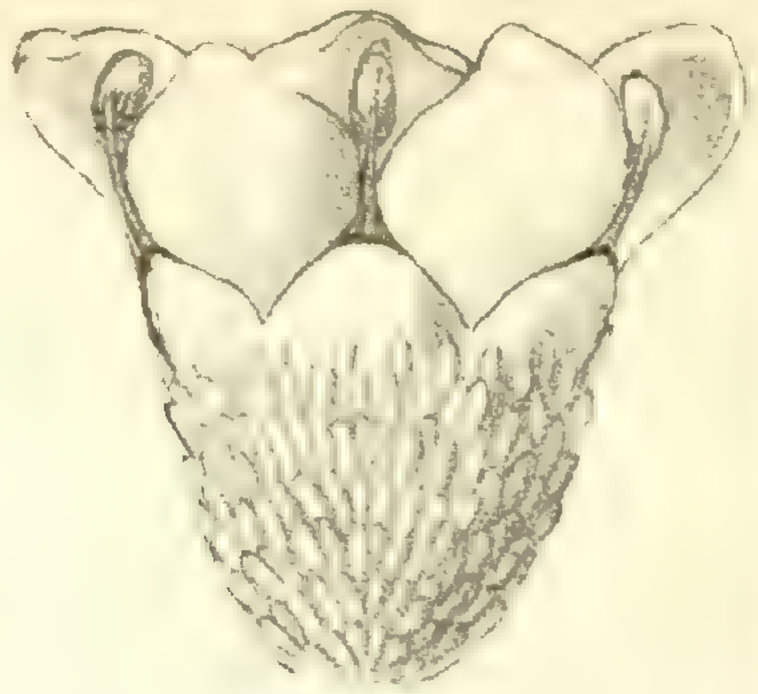

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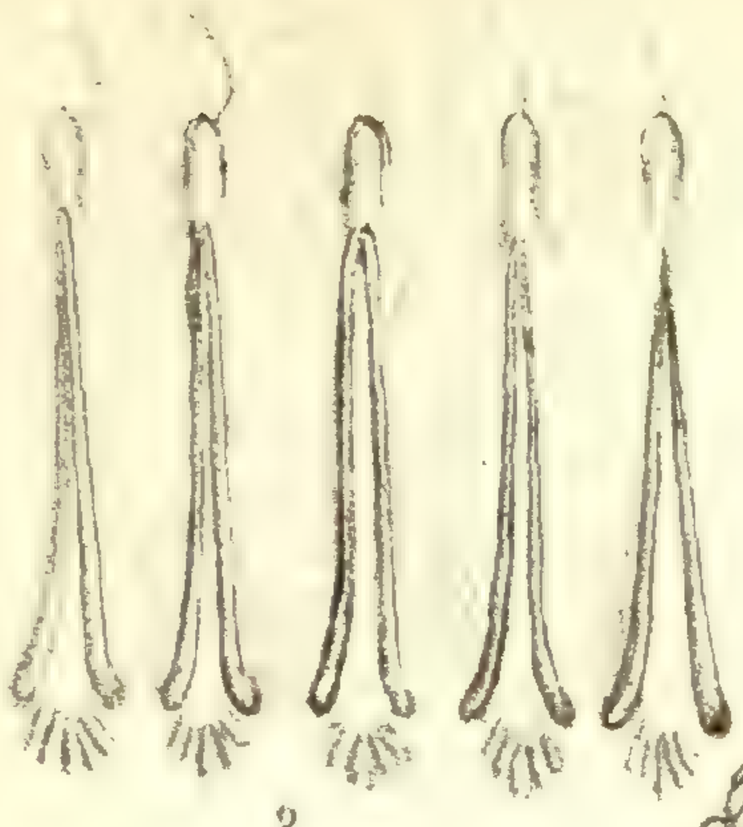
Choritænia capensis, Benth.



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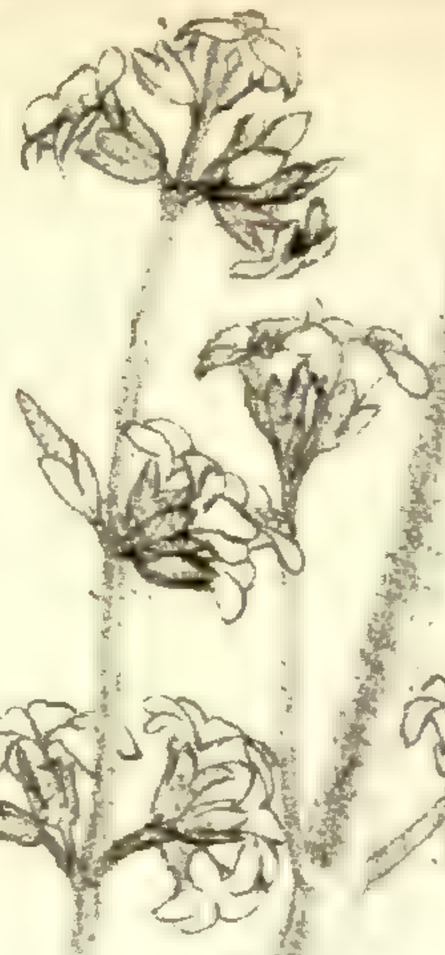

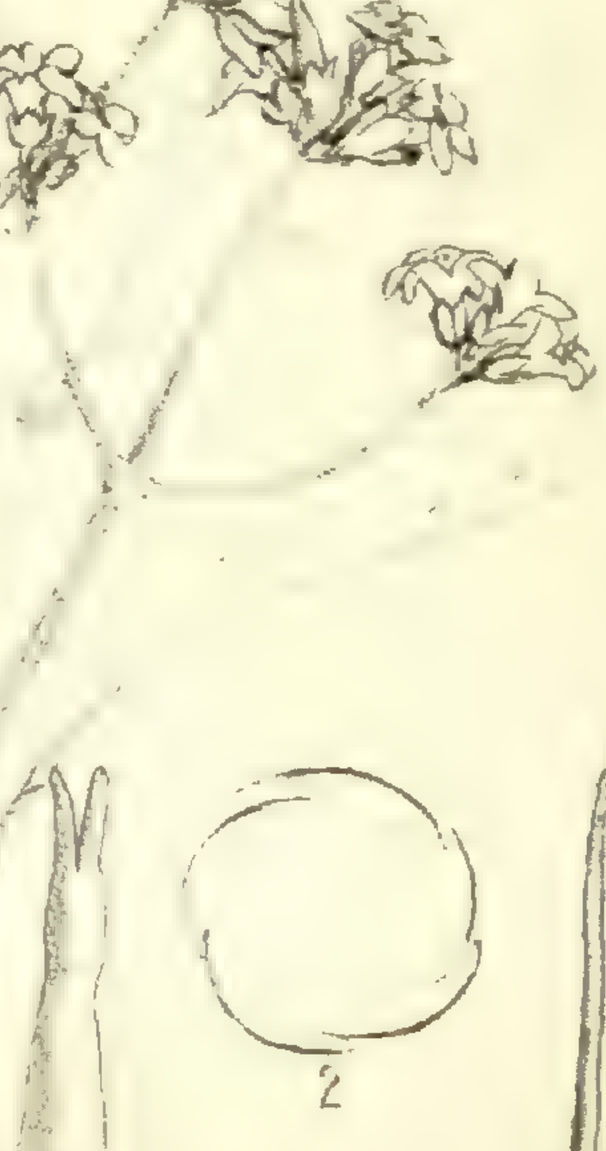

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Oncinotis hirta, Oliv.

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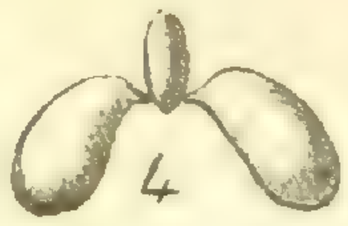
Parinarium capense Harv.



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Peplonia amazonica, Benth.

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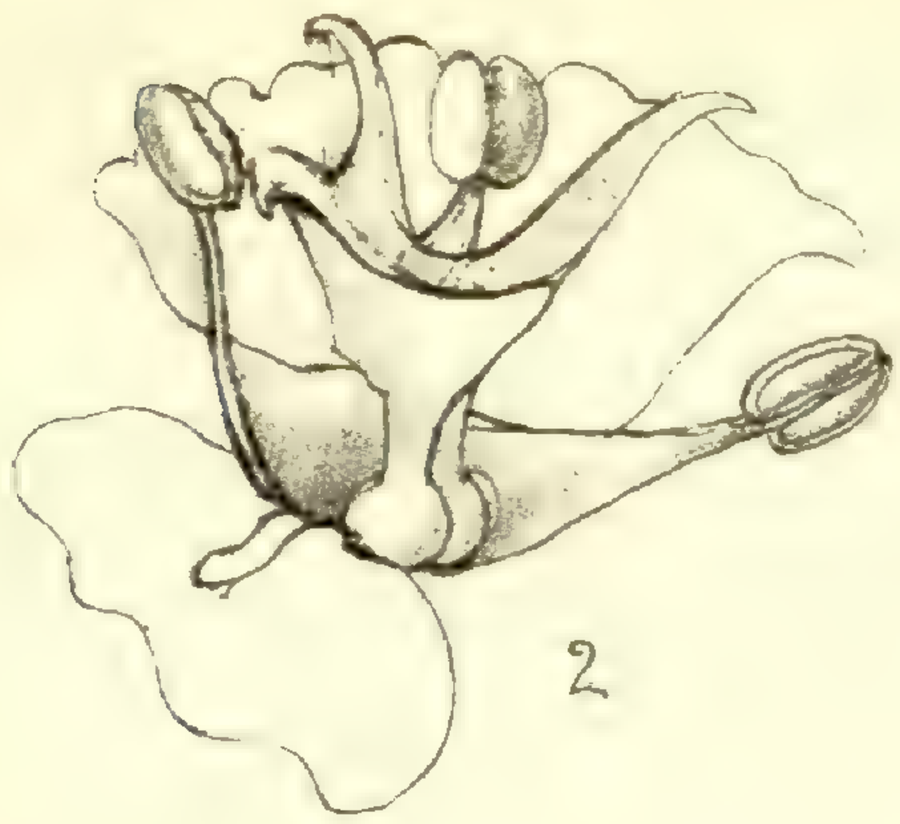
Craterispermum laurinum, Benth.

A.M.C. del.

Lampra volcanica, Benth.



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Trichlora peruviana Baker

Siphomeris fœtens, Hiern.

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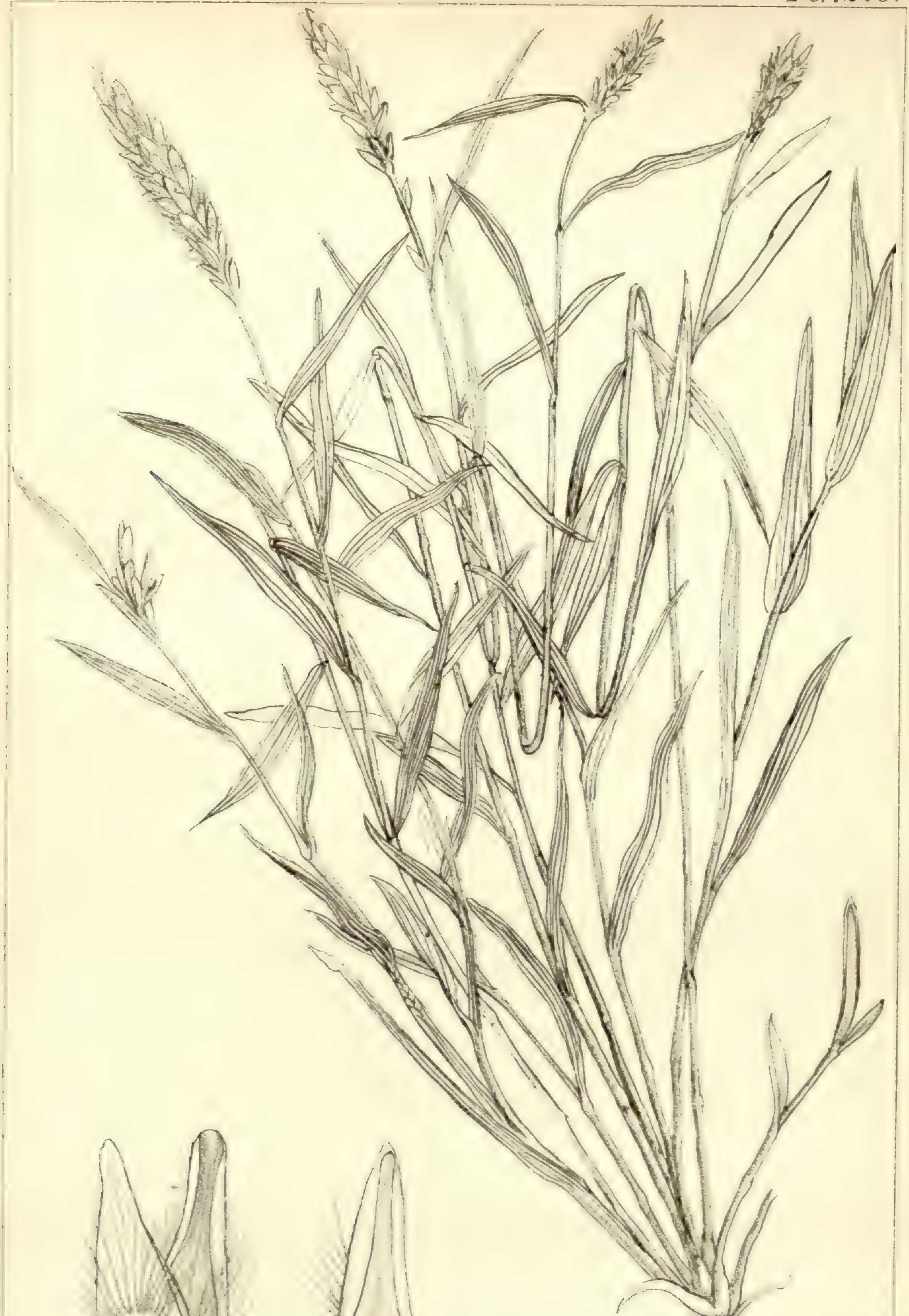
Neurachne Munroi. F. Muell.



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Neurachne Mitchelliana, Nees.

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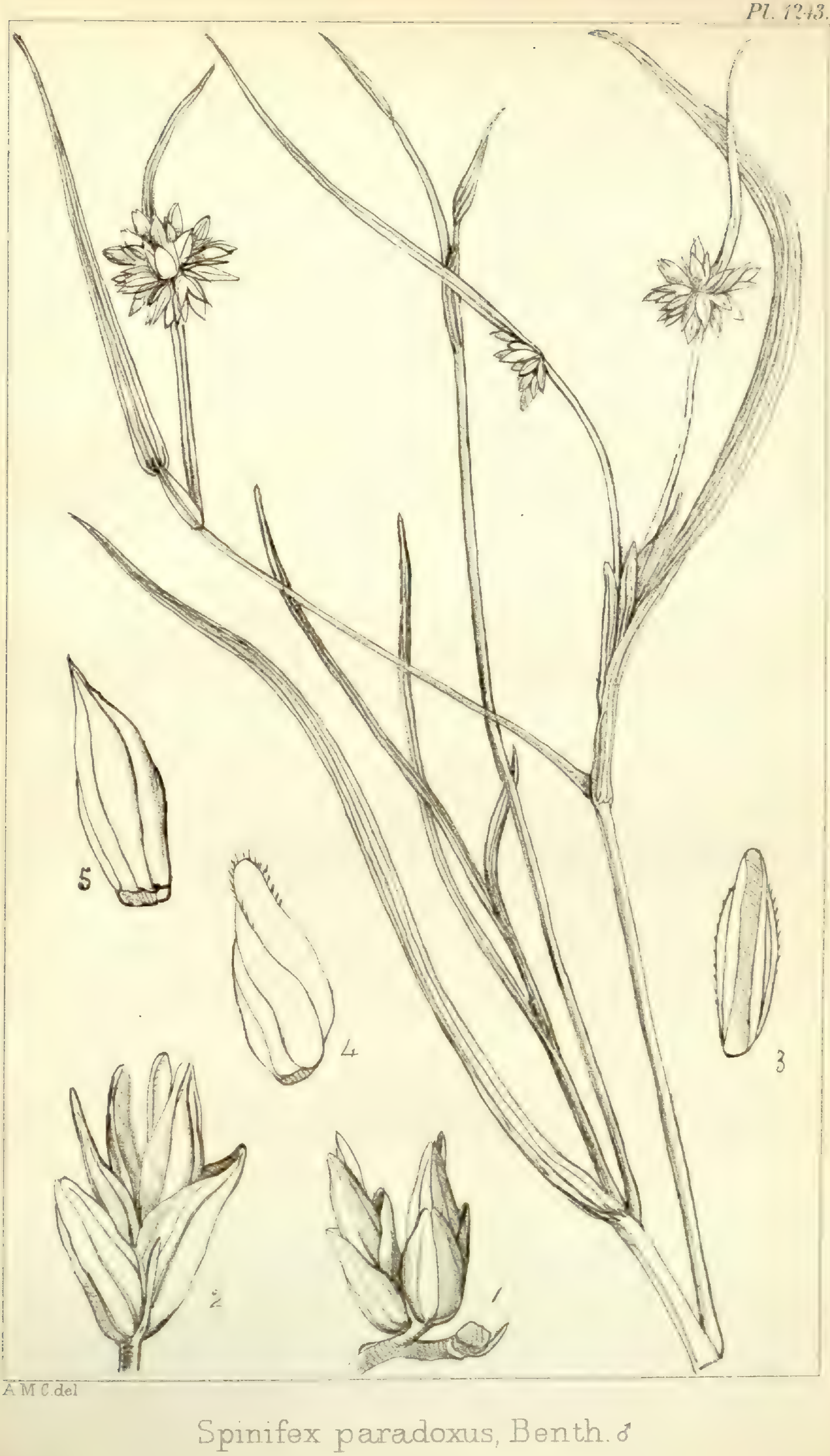
Neurachne alopecuroides, R. Br.

Pennisetum refractum, F. Muell.



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Spinifex paradoxus, Benth. ♂

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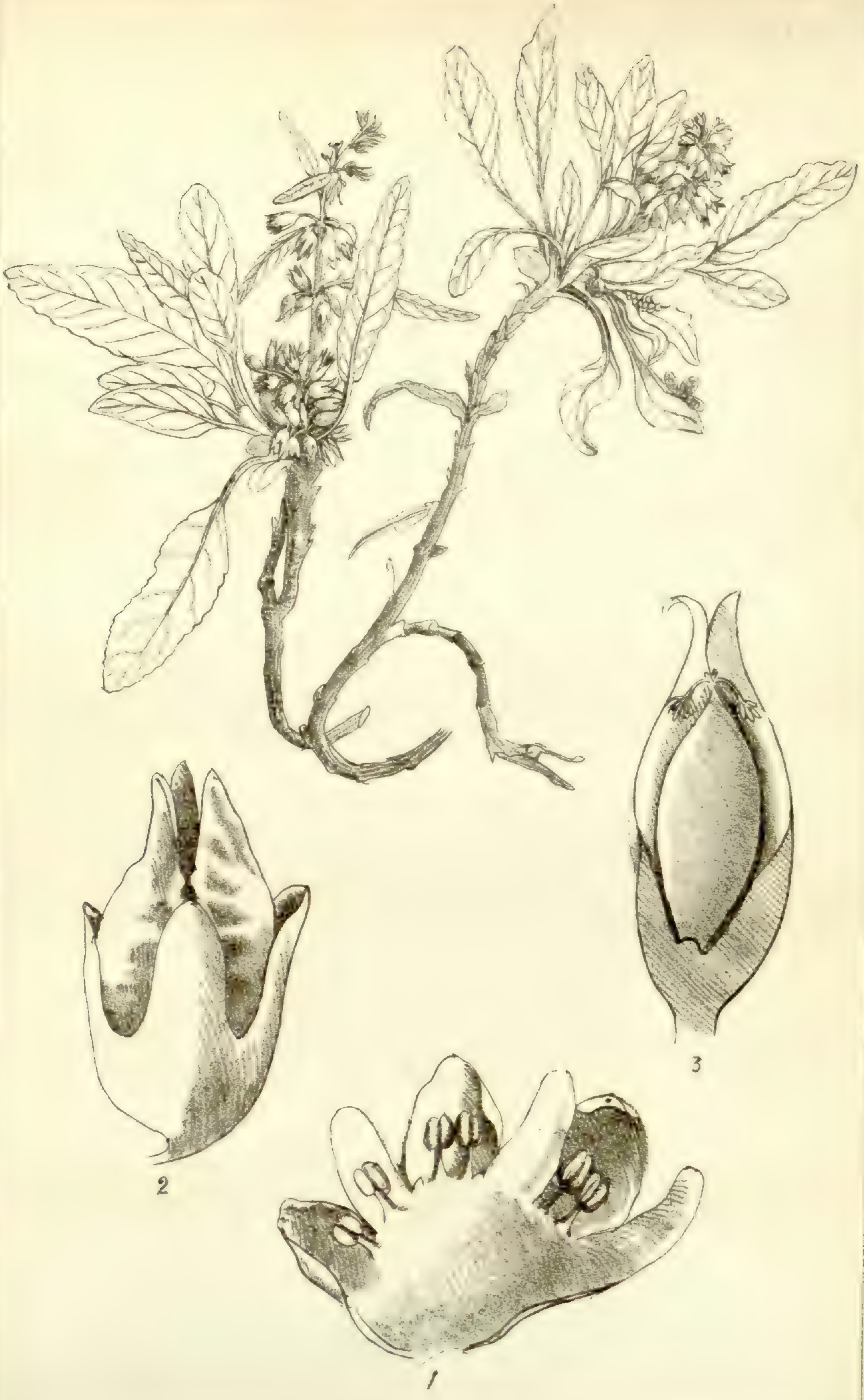
Spinifex paradoxus. Benth ♀



A.M.C del.

Rumex neglectus, T. Kirk.

A M C del

Irvingia Barteri, Hook. f.

A M C del

Irvingia malayana, Oliv.

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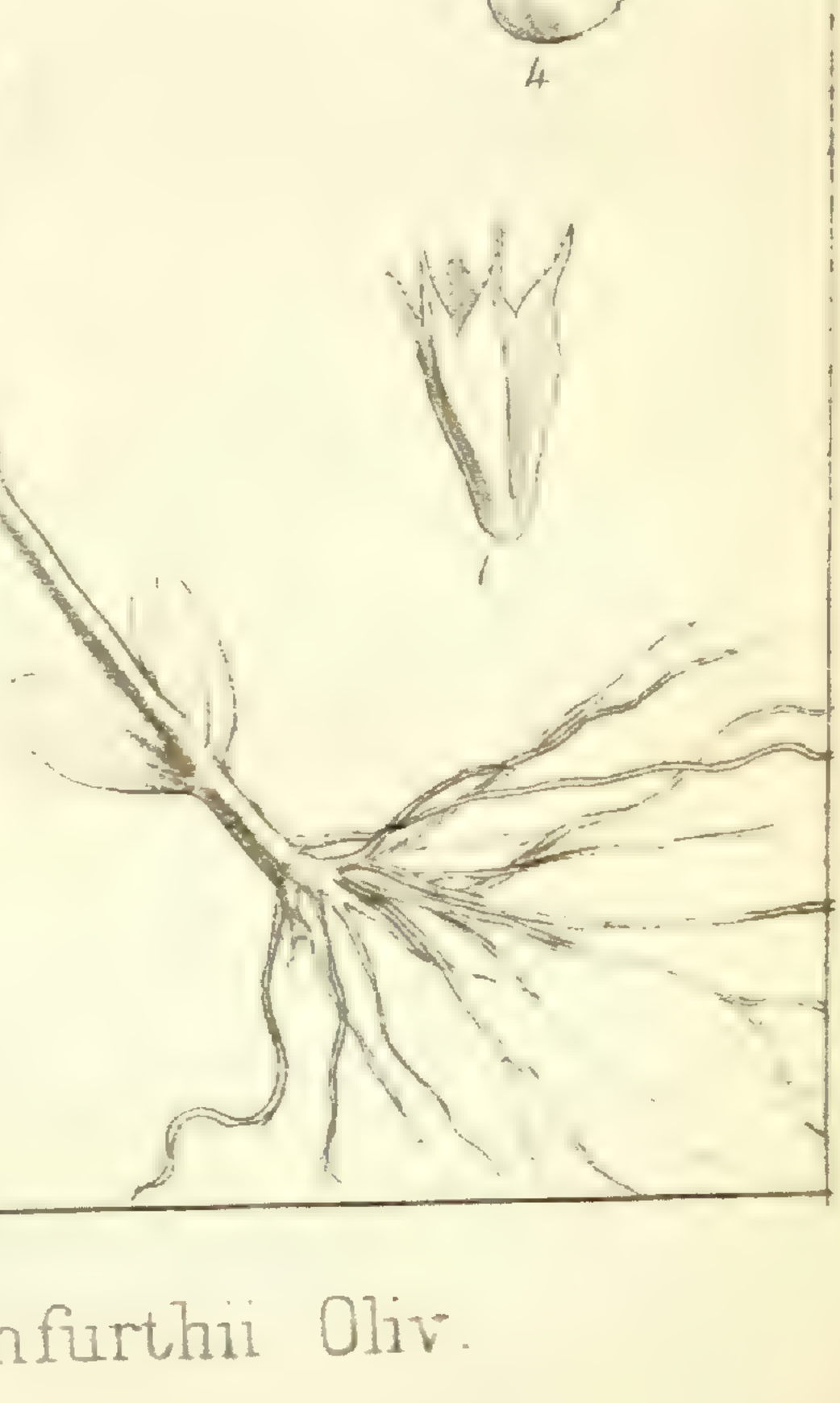
A.M.C. del.

Stenogyne rotundifolia A Gray

A.M.C. del.

Achyrospermum fruticosum Benth.

Heterachne Gulliveri Benth



A.M.C del

Torenia Schweinfurthii Oliv.

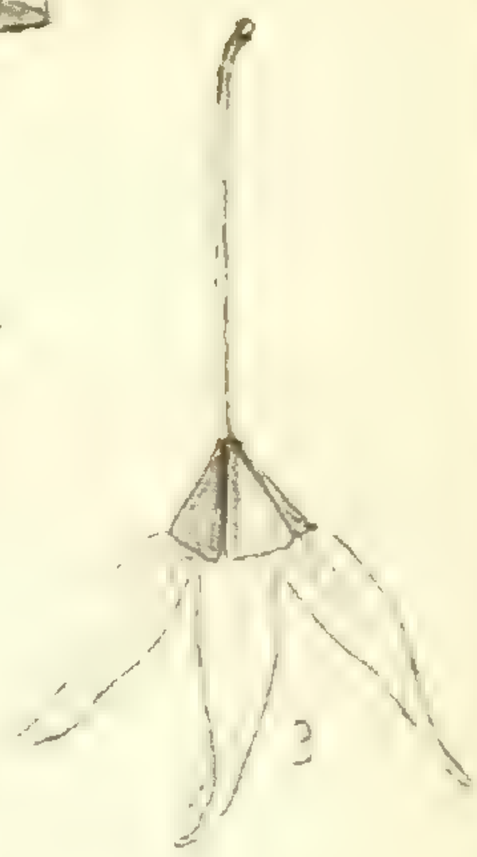
A.M.C. del.

Medusagyne oppositifolia Baker

A. M. C. del.

Vitis sarcocephala Schw.

4



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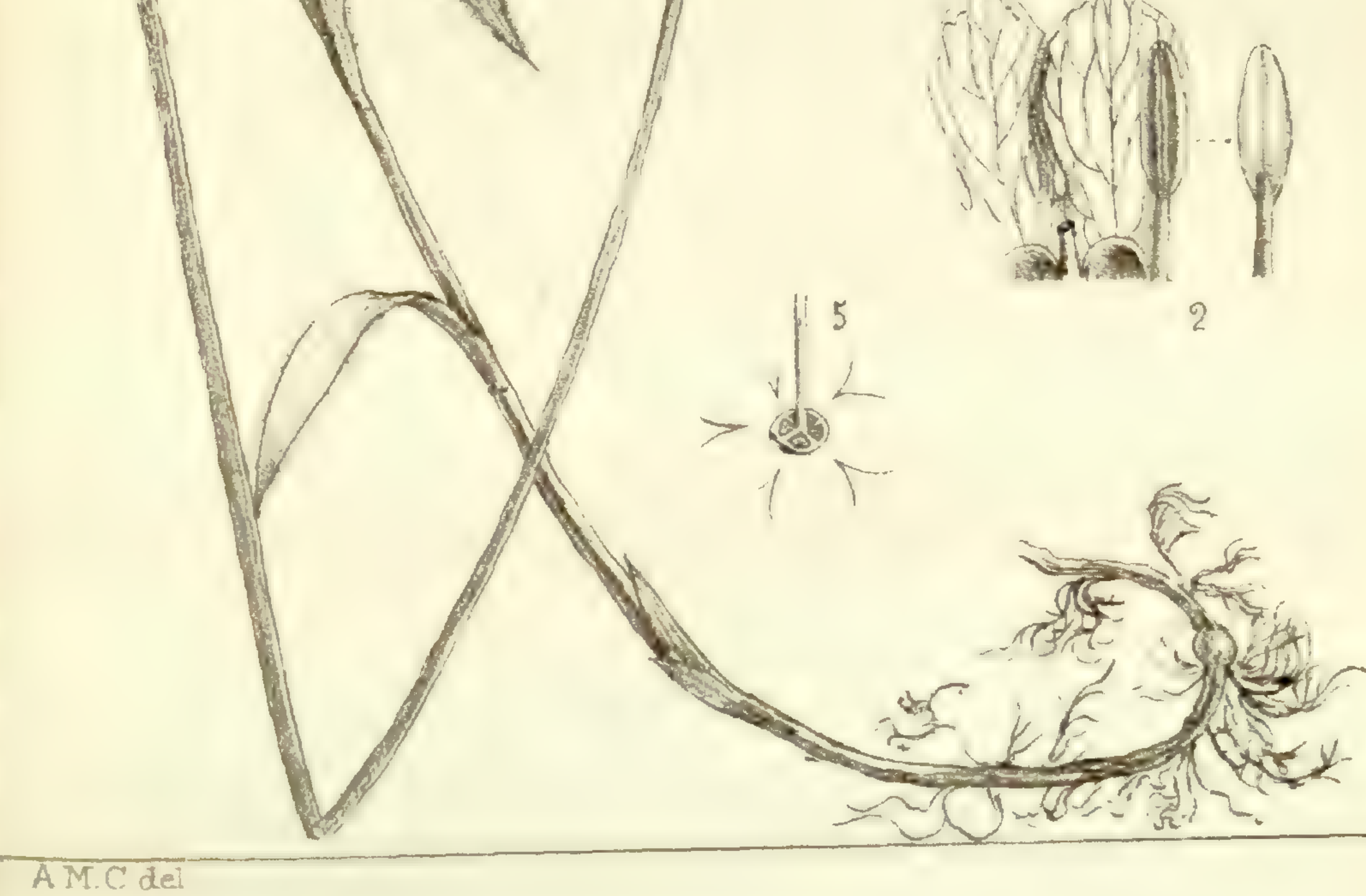
5



A M.C del

Brachybotrys paridiformis Maxim.

AMC del

Exochorda serratifolia. S M

Syncolostemon densiflorus Bth.

Saxifraga Rossii Oliv

A M C del

Misanteca anacardioides, Benth.

A M C. del

Myristica Sagotiana Benth.

A. M. C. del.

Myristica microcephala Benth.

A M C del.

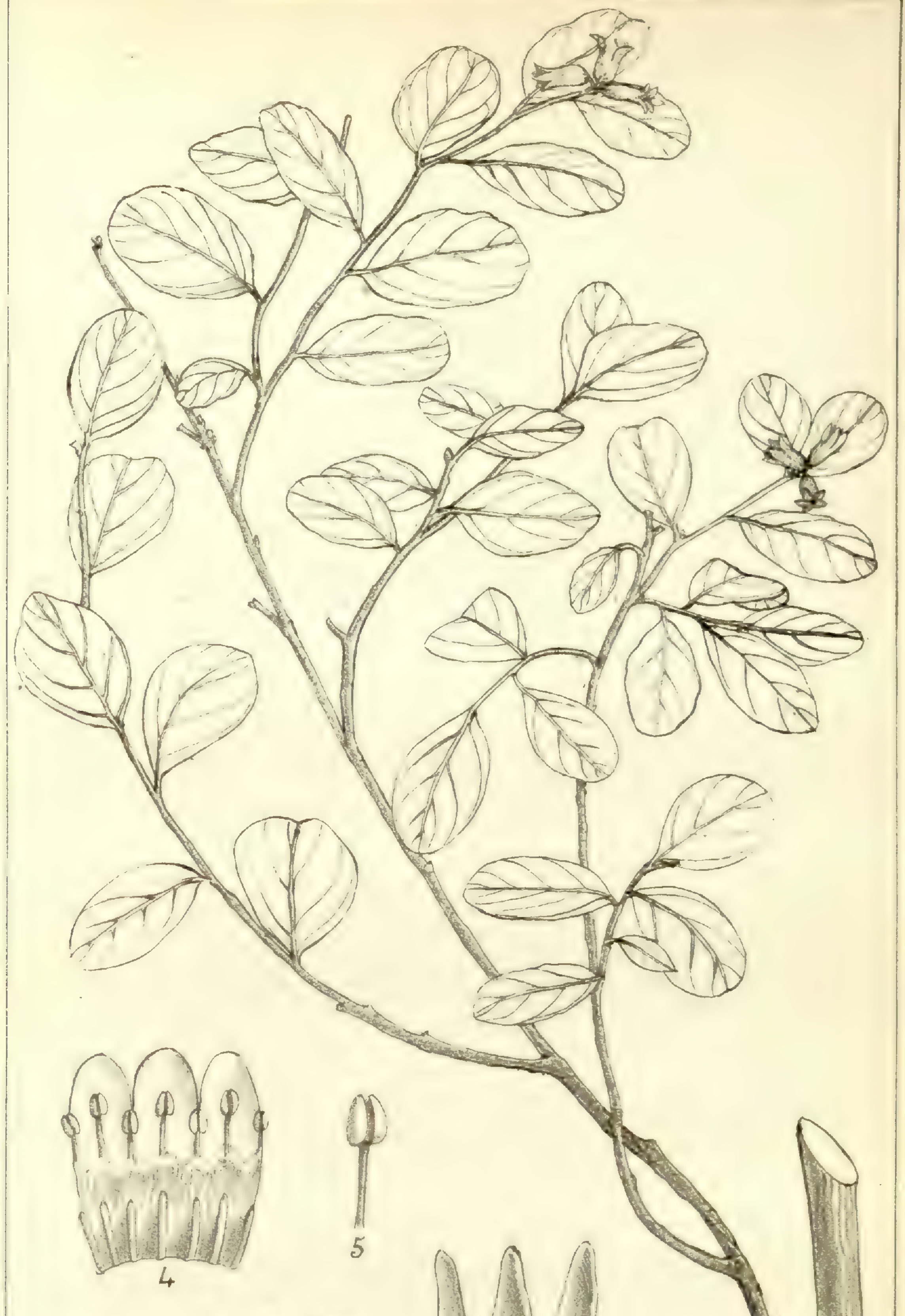
Myristica Mannii Benth.

A.M.C. del.

Palmeria scandens F. Muell.

A M C. del

Chymococca empetroides. Meissn.



A.M.C del.

Goodallia guianensis Benth

A.M.C. del

Agastachys odorata. R Br.

3

2

1

A M C del

Manniophyton africanum, Muell. Arg.

A.M.C. del.

Enterospermum littorale Hiern

A.M.C. del.

Lepistemon africanum Oliv.

A.M.C. del

Didymæa mexicana. Hook.f.

A.M.C. del

Actinostrobus pyramidalis Miq.

A.M.C. del.

Aristolochia somaliensis Oliv.

A M C del

Orthosiphon linearis Benth.

Cardwellia sublimis, F Muell.

A M C. del

Kickxia africana Benth.

Echiochilon longiflorum Benth

A M C del.

Cyathogyne viridis Muell. Arg.

A.M.C. del

Lachnostylis hirta Muell Arg.

A.M.C. del,

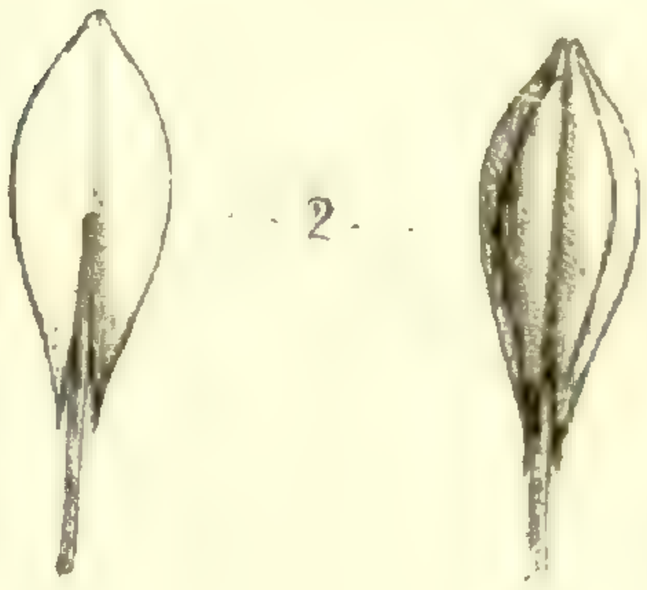
Choriophyllum malayanum Benth.

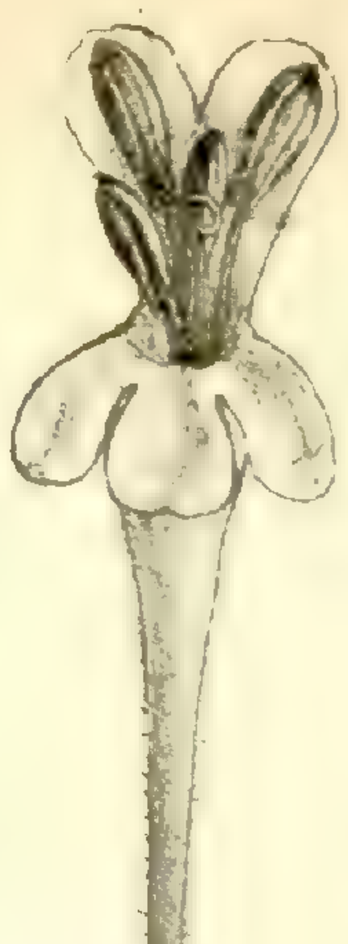
A M.C. del

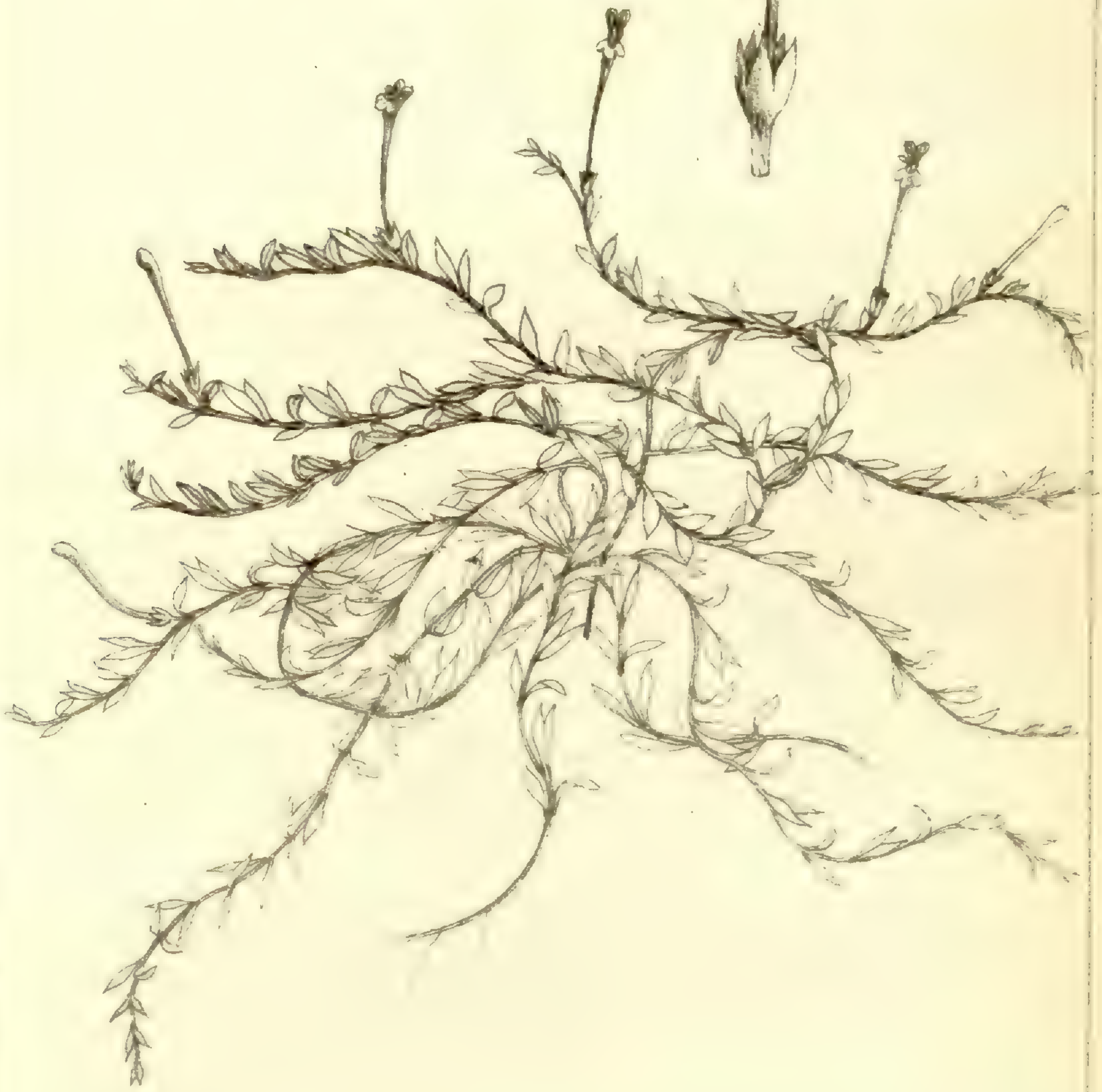
Mareya micrantha Muell. Arg.

A.M.C.del.

Tetradenia fruticosa, Benth.







A.M.C. del.

Euphrasia disperma, Hook.f.

F.M.C del.

Leidesia capensis. Muell. Arg.

A.M.C. del.

Cardamine paradoxa, Hance.

A.M.C. del.

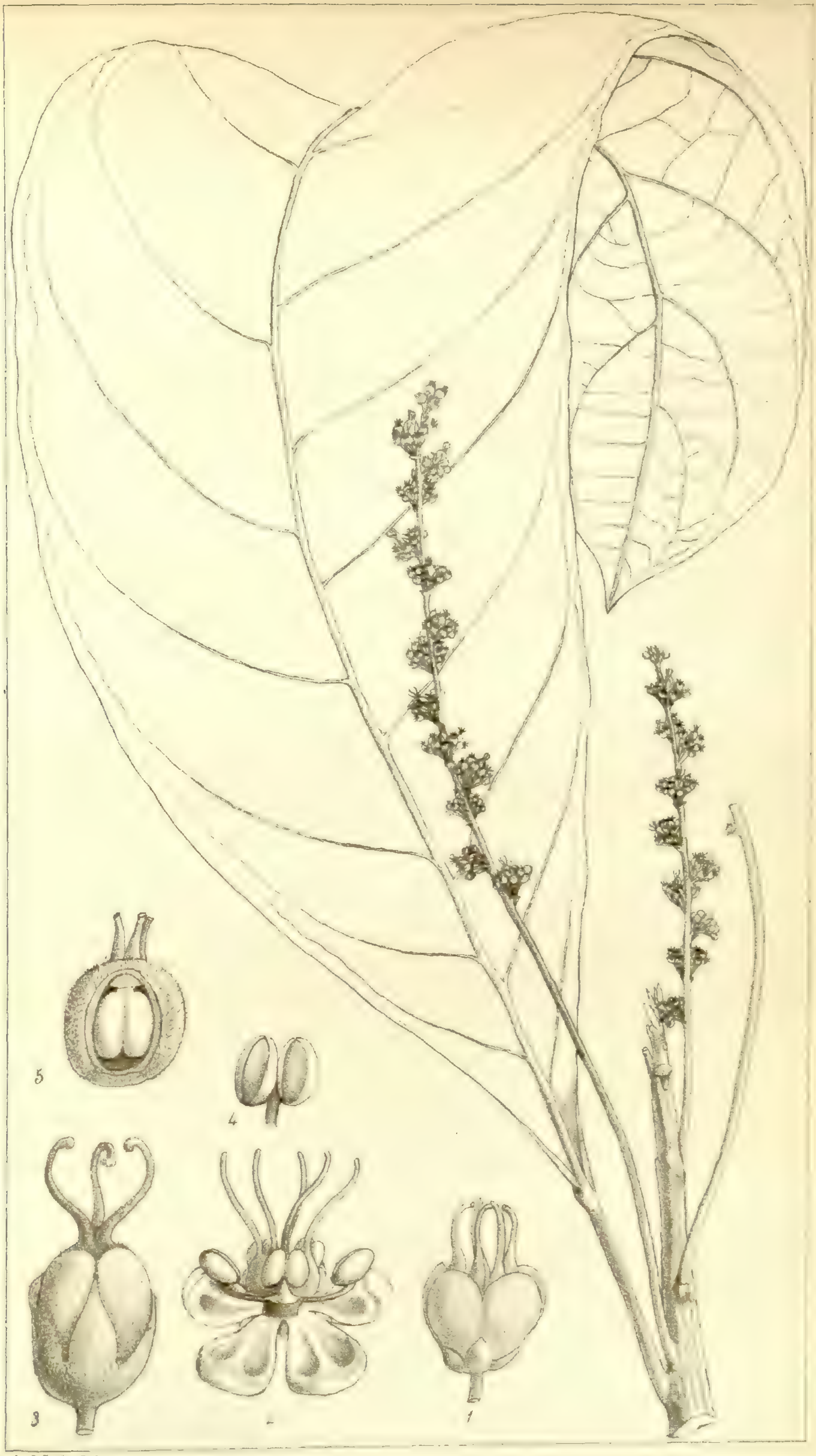
Stilbanthus scandens, Hook.f..

A.M.C del.

Tapeca Quineensis. Miel.

A M C del

Cœlodepas Wallichianum, Benth.



A.M C. del.

Dicœlia Beccariana, Benth.

A M C del

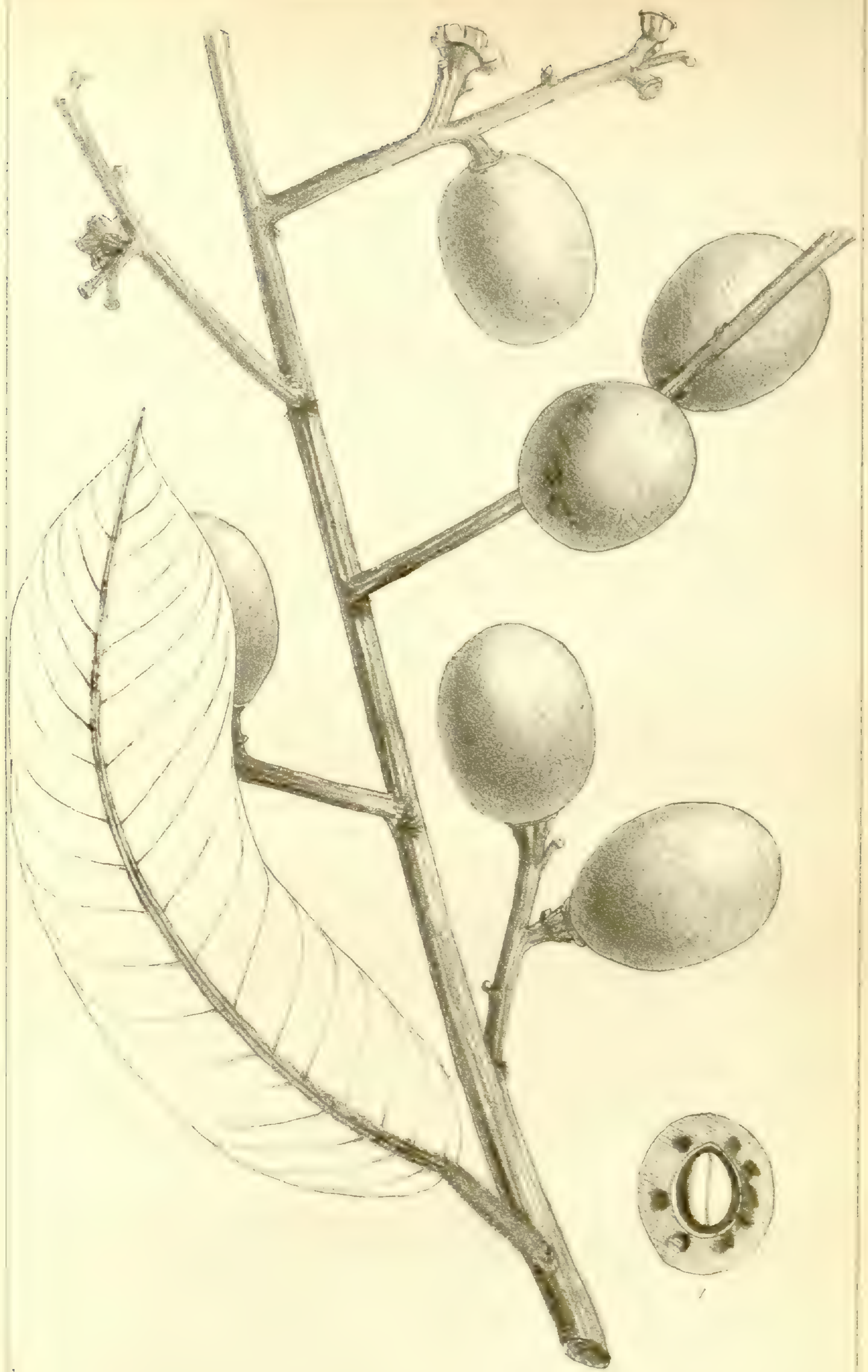
Reichenbachia hirsuta, Spreng.

A.M. C. del.

Acalypha spinescens, Benth.

A.M.C. del.

Melanochyla tomentosa H.k.f.



A.M.C. del.

Melanochyla tomentosa Hkf.

M.C. del

Elateriospermum Tapos Bl.

A M C. del

Procris lævigata, Bl.

A M C. del

Mæsobotrya floribunda, Benth

♂

2

♀

3

4

A.M.C. del.

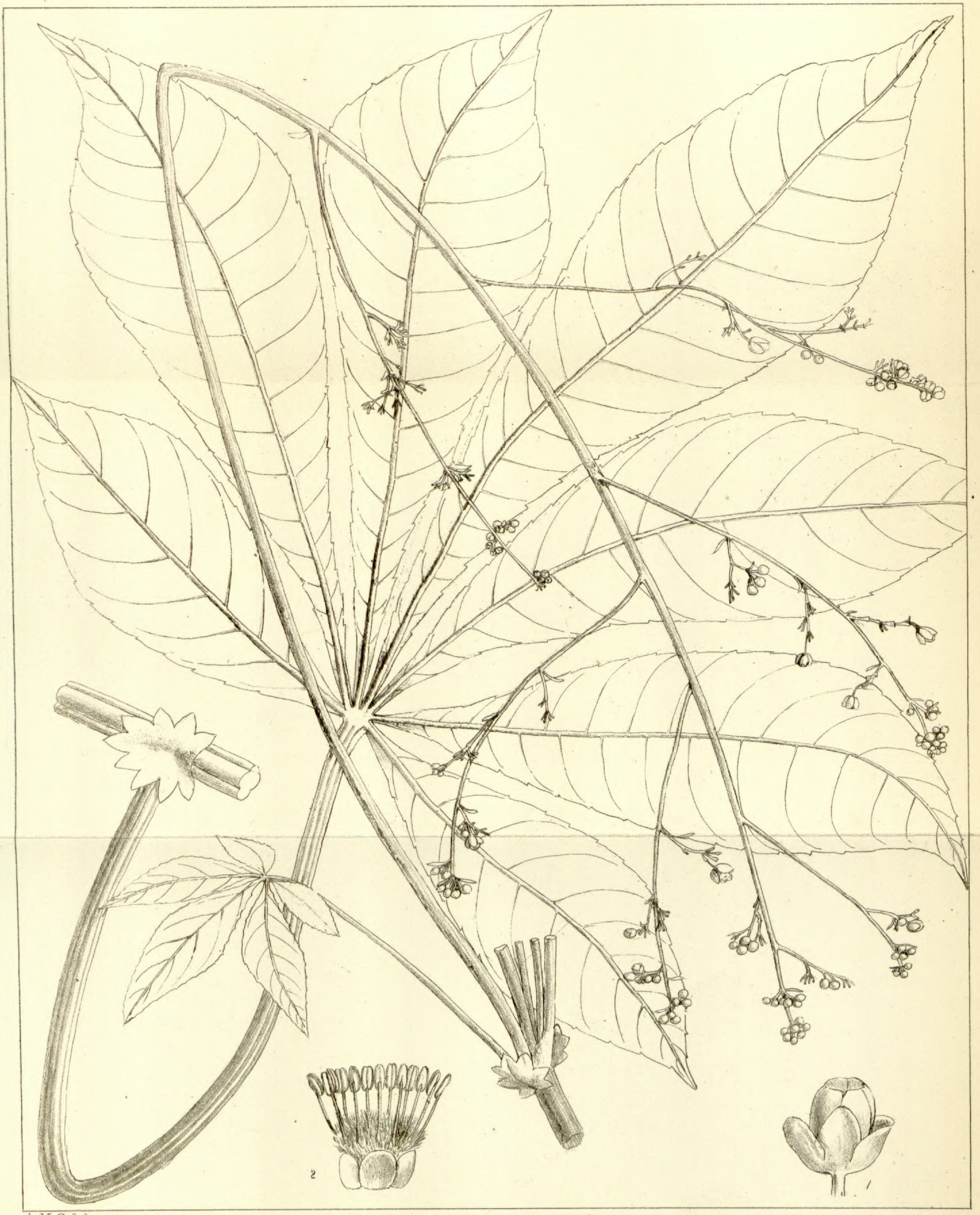
Lepidoturus laxiflorus, Benth.

A.M.C.del.

Neoboutonia africana, Muell. Arg. ♂

A.M.C. del.

Neoboutonia africana, Muell. Arg. ♀.



A.M.C. del.

Ricinodendron africanus, Muell, Arg.